U.S. Army Center for Health Promotion and Preventive Medicine

















TRAINING MUNITIONS HEALTH RISK ASSESSMENT NO. 39-EJ-1485-00 RESIDENTIAL EXPOSURE FROM INHALATION OF AIR EMISSIONS FROM THE M855 5.56-MM BALL CARTRIDGE DEPARTMENT OF DEFENSE IDENTIFICATION CODE: A059

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Readiness Thru Health

U.S. Army Center for Health Promotion and Preventive Medicine

The lineage of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) can be traced back over 50 years. This organization began as the U.S. Army Industrial Hygiene Laboratory, established during the industrial buildup for World War II, under the direct supervision of the Army Surgeon General. Its original location was at the Johns Hopkins School of Hygiene and Public Health. Its mission was to conduct occupational health surveys and investigations within the Department of Defense's (DOD's) industrial production base. It was staffed with three personnel and had a limited annual operating budget of three thousand dollars.

Most recently, it became internationally known as the U.S. Army Environmental Hygiene Agency (AEHA). Its mission expanded to support worldwide preventive medicine programs of the Army, DOD, and other Federal agencies as directed by the Army Medical Command or the Office of The Surgeon General, through consultations, support services, investigations, on-site visits, and training.

On 1 August 1994, AEHA was redesignated the U.S. Army Center for Health Promotion and Preventive Medicine with a provisional status and a commanding general officer. On 1 October 1995, the nonprovisional status was approved with a mission of providing preventive medicine and health promotion leadership, direction, and services for America's Army.

The organization's quest has always been one of excellence and the provision of quality service. Today, its goal is to be an established world-class center of excellence for achieving and maintaining a fit, healthy, and ready force. To achieve that end, the CHPPM holds firmly to its values which are steeped in rich military heritage:

- ★ Integrity is the foundation
 - ★ Excellence is the standard
 - ★ Customer satisfaction is the focus
 - ★ Its people are the most valued resource
 - ★ Continuous quality improvement is the pathway

This organization stands on the threshold of even greater challenges and responsibilities. It has been reorganized and reengineered to support the Army of the future. The CHPPM now has three direct support activities located in Fort Meade, Maryland; Fort McPherson, Georgia; and Fitzsimons Army Medical Center, Aurora, Colorado; to provide responsive regional health promotion and preventive medicine support across the U.S. There are also two CHPPM overseas commands in Landstuhl, Germany and Camp Zama, Japan who contribute to the success of CHPPM's increasing global mission. As CHPPM moves into the 21st Century, new programs relating to fitness, health promotion, wellness, and disease surveillance are being added. As always, CHPPM stands firm in its commitment to Army readiness. It is an organization proud of its fine history, yet equally excited about its challenging future.

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14. ABSTRACT

This assessment evaluated the potential for human health effects to offsite residents breathing air emissions following use of the 5.56mm Ball Cartridge. This document present the evaluation of the potential for adverse human health effects to teh offsite residents breathing air emissions following the use of military firing ranges during training exercises. Study results showed no protential for health risks to the hypothetical resident from inhalation of air emissions from the 5.56mm Cartridge. To conduct this study, air emissions from the 5.56mm Cartridge were collected in a test chamber (at Aberdeen Test Center, Aberdeen, MD). This information was then used in an air dispersion model to determine ambient air concentrations at a location downwind from the site where the item was activated. Modeled air concentrations were combined with exposure information to estimate the amount of substances the hypothetical resident breathes. This intake was combined with the substance's health information, to determine if there is a potential for health risks from inhjalation of these substances. The health risk included both long-term and short term exposures to the modeled substance concentrations. Study results showed no potential for helath risks from inhalation of air emissions from the 5.56mm Ball Cartridge.

15. SUBJECT TERMS

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TRAINING MUNITIONS HEALTH RISK ASSESSMENT NO. 39-EJ-1485-00 RESIDENTIAL EXPOSURE FROM INHALATION OF AIR EMISSIONS FROM THE M855 5.56-MM BALL CARTRIDGE

EXECUTIVE SUMMARY

This assessment evaluated the potential for human health effects to offsite residents breathing air emissions following use of the M855 5.56-mm Ball Cartridge (M855) on firing ranges during training exercises.

To conduct this assessment, air emissions from the M855 were collected in a test chamber at the U.S. Army Aberdeen Test Center, Maryland. The data collected from the Firing Point Emission Study provided the amount and types of substances released from the M855. This information was then used in an air dispersion model to determine ambient air concentrations at locations downwind from the M855 firing location. Since the training facility in this assessment is hypothetical, the air model used assumptions that provided conservative estimates of air concentrations.

Modeled air concentrations were combined with exposure information (e.g., number of cartridges used per year) to estimate the amount of each substance the hypothetical offsite resident breathes. This estimate was then compared with the substance's health-based screening level, which was obtained from agencies such as the U.S. Environmental Protection Agency, to determine if there is a potential for health risks from inhalation.

The health risk assessment included both long-term (30 years) and short-term (15-minute or 1-hour) exposures to modeled substance concentrations. Assessment results, generated using conservative methods, showed that the hypothetical offsite resident breathing air as close as 300 meters (984 feet) from the M855 firing location is safe from these emissions. At locations where offsite residents are closer than 300 meters from the M855 firing location, findings indicated a more site-specific evaluation is necessary. It should be noted that at most training installations, training areas are over 1,000 meters (over half a mile) away from populated areas.

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LIST OF ACRONYMS

AEC U.S. Army Environmental Center

AEGL Acute Exposure Guideline Levels

AIHA American Industrial Hygiene Association

Al Aluminum

ATC U.S. Army Aberdeen Test Center

ATV Acute Toxicity Value

CO₂ Carbon Dioxide

DODIC Department of Defense Identification Code

DOE U.S. Department of Energy

EPA U.S. Environmental Protection Agency

ERPG Emergency Response Planning Guidelines

HBSL Health-Based Screening Level

INPUFF Integrated PUFF Model

NAAQS National Ambient Air Quality Standards

NEW Net Explosive Weight

OEL Occupational Exposure Limit

PM₁₀ Particulate Matter under 10 microns in size

PRG Preliminary Remediation Goals

RBC Risk-Based Concentration

RfC Reference Concentration

TEEL Temporary Emergency Exposure Limits

TPH Total Petroleum Hydrocarbons

TSP Total Suspended Particulates

USACHPPM U.S. Army Center for Health Promotion and Preventive Medicine

TRAINING MUNITIONS HEALTH RISK ASSESSMENT NO. 39-EJ-1485-00 RESIDENTIAL EXPOSURE FROM INHALATION OF AIR EMISSIONS FROM THE M855 5.56-MM BALL CARTRIDGE

1. PURPOSE

This document presents the assessment of the potential for human health effects to offsite residents breathing air emissions following use of the M855 5.56-mm Ball Cartridge (M855) on firing ranges during training exercises.

2. AUTHORITY

Statement of Work, 30 November 2000, Training Munitions Inhalation Health Risk Evaluations.

3. REFERENCES

See Appendix A for a list of references.

4. BACKGROUND

4.1 CARTRIDGES AND THEIR USE

Cartridges are cases that contain a primer, propelling charge, and projectile. The primer is needed to activate the propelling charge, which provides the force to send the projectile to a target. Examples of projectiles include bullets, rockets, and missiles. Cartridges are also referred to as "rounds" and are fired from weapons such as pistols or rifles.

4.2 WHAT IS THE M855?

The M855 is a type of ball ammunition, which means that it is intended for use against unarmored targets. This cartridge is used on firing ranges during training, and in combat. Each ball cartridge is about as long as a man's thumb and weighs about as much as a half dollar coin. It can be identified by its green tip (Reference 1).

The M855 consists of a metal case containing mostly copper and zinc. The M855 also contains a propelling charge that is made up primarily of nitrocellulose. Nitrocellulose is commonly used in furniture lacquers, printing inks, nail polish, and as a primary ingredient in smokeless propellants for military and commercial use.

4.3 USE OF THE M855

The M855 is typically fired from the M16A2 rifle or the M249 machine gun. When fired from the M16A2, the M855 can be fired either as a 3-round burst (automatic) or as a single shot (semi-automatic) (Reference 2). Training with the M855 is very important

because it allows our troops to practice using the weapons from which the M855 is fired. This will prepare them for combat situations.

4.4 ASSESSMENT SUMMARY

The general assessment approach consisted of two main parts: air dispersion modeling and exposure assessment, which are briefly discussed in the paragraphs below. Sections 5 through 7 present a discussion of the methodology used for this assessment.

Emissions data used in the air dispersion modeling were obtained from the Firing Point Emission Study, conducted by the U.S. Army Aberdeen Test Center (ATC), at Aberdeen Proving Ground, Maryland (Reference 3). This assessment was funded by the U.S. Army Environmental Center (AEC) with the purpose of identifying and quantifying emissions from weapons firing. Data from this assessment were generated by firing munitions in a test chamber using weapons that are representative of those used by the U.S. Army during training operations. Emissions data for the M855 were generated by firing it from two different M16 series rifles: the M16A1 and M16A2.

The emissions data for the M855 were used with an atmospheric dispersion model to estimate the average concentrations that might be experienced by an offsite resident. Since this assessment is designed to provide results that would be applicable to most Army training facilities, the training area used in this assessment was a hypothetical one. While most training areas are at least 1,000 meters away from populated areas, as a conservative distance, it was initially assumed that a person could reside 100 meters downwind from the firing point (location where the rifle is positioned). In addition, air-modeling parameters were selected to mimic worst-case conditions.

The exposure assessment included calculations of time-averaged concentrations for both long-term (chronic) and short-term (acute) exposures. For the purpose of this assessment, air concentrations were averaged over 30 years for chronic exposures and 1-hour or 15 minutes for acute exposures. Using a screening approach, a substance's estimated time-averaged air concentration was then compared to chronic health-based screening levels (HBSLs) established by the U.S. Environmental Protection Agency (EPA) or acute toxicity values (ATVs) established by selected agencies depending on the exposure duration (i.e., 30 years versus 1-hour or 15 minutes). The comparison was made using the ratio of the HBSL or ATV to the estimated air concentration for each of the substances evaluated. If this ratio was less than one, no further evaluation was necessary. This approach is conservative because the exposure assumptions used by the agencies, to establish HBSLs and ATVs, are likely to overestimate the exposures experienced by offsite residents living near firing ranges. If the chronic or acute averaged concentrations (C_{chronic} and C_{acute}) were greater than these screening levels, producing a ratio greater than one, further analysis would be warranted to determine the potential for health effects. Note that concentrations greater than the screening levels do not indicate an onset of health effects, but rather, the potential for such.

5. DATA COLLECTION AND AIR MODELING

5.1 EMISSION FACTORS

Emission factors, used to derive the air modeling emission rates used in this assessment, were generated from the Firing Point Emission Study conducted by the ATC (Reference 3). The data included the net explosive weight (NEW), the substances sampled, and substance-specific emission factors. Emissions data from the Firing Point Emission Study are included in the first four columns of the table located in Appendix B.

5.2 BACKGROUND AND DESCRIPTION

Air dispersion models are available to mathematically simulate plume behavior and to estimate downwind concentrations of substances emitted from various sources. However, specific models are not available to determine the dispersion of emissions from munitions used during training. Estimating the magnitude and location of these concentrations depends on many factors including the amount and type of emissions, the behavior of the source, and meteorological conditions. Since a specific model is not available for modeling the use of munitions during training, the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) evaluated numerous air models to determine which would be suitable for use with munitions used during training. The USACHPPM recommended using the Integrated PUFF (INPUFF) model to estimate the dispersion of emissions from various munitions sources (Reference 4).

The INPUFF Model (Reference 5) was developed to simulate dispersion from instantaneous or semi-continuous point sources. This Gaussian-integrated puff model is capable of addressing a cloud type release over short periods of time, and computations can be performed for a single point source for multiple receptors. The algorithms used to calculate concentrations assume a vertically uniform wind direction (with no chemical reaction) to compute the contribution of each cloud at a receptor for each time step/interval.

5.3 MODEL ASSUMPTIONS

Some assumptions were made to best represent the firing of the M855 cartridges. These assumptions were as follows:

Typically, with conventional point sources, the cloud rise and formation are determined by characterizing flue gas exit velocity, temperature, and stack diameter. However, the M855 cartridges are used in conjunction with machine guns and rifles. For unconventional sources with no real physical stack dimensions, such as rifles, the stack height and diameter were assumed to be equal to the height of the barrel and the bore diameter. No exit velocity was used with this source because the emission rates generated from the test data were obtained from sampling a stabilized cloud with no exit velocity. Table 1 includes the source parameters used to model the M855 cartridges fired from both M16 series rifles used in this assessment.

TABLE 1: SOURCE PARAMETERS

Parameter	Model Input
Source/Stack Diameter	0.00556 meters
Source/Stack Height	1 meter
Source Exit Temperature	298.15 degrees Kelvin (°K) (or 77 °F)
Exit Velocity	0 meters/second
Initial horizontal dispersion coefficient (σ_y)	2.29 meters
Initial vertical dispersion coefficient (σ_z)	1.07 meters

- Initial cloud dimensions are preferred to model the air emissions from these types of releases. Typically, these dimensions are used to define the initial horizontal and vertical dispersion values (σ_y and σ_z) of the released cloud. This information was not measured during the studies at the ATC; therefore, the cloud dimensions were based on the test chamber dimensions and the volume of air sampled. By assuming an elliptical cloud with the prevailing wind direction being perpendicular to the muzzle when fired, the test chamber's radius would be equal to the initial vertical dispersion (σ_z), and the initial horizontal dispersion (σ_y), would be equal to one half the length of the test chamber. The cloud exit temperature was assumed to be equal to the test chamber temperature.
- For the purposes of this assessment, a hypothetical offsite resident was assumed to be located first at 100 meters, then at 200 and 300 meters directly downwind from the source. The meander of the cloud is a major factor when estimating concentrations at given locations downwind from the source. Assuming that the resident is directly downwind from the source is the same as assuming that there is no cloud meander and that the center of the cloud migrates directly over the hypothetical offsite resident. This assumption provides the most conservative modeled concentrations.
- Since this assessment does not look at a specific training site, generic, worst-case meteorological data were used. To determine the worst-case meteorological conditions that would result in the highest air emission concentrations, the modeling was performed using the EPA Risk Management Program Guidance (Reference 6). This guidance includes tables for estimating the footprint of chemical releases and is intended to inform emergency responders of potential accidental releases. The EPA has defined most default conditions for meteorological modeling parameters. Table 2 lists the meteorological parameters that were used in the air model.

TABLE 2: WORST-CASE METEOROLOGICAL PARAMETERS

Parameter	Input Value
Wind Speed	1 meter/second
Atmospheric Stability	Category F
Wind Direction	270°
Ambient Temperature	293 degrees Kelvin (°K) (or 68 °F)

5.4 GENERAL METHODOLOGY

The model was run for a total calculation time of 200 seconds for the 100-meter location and 500 seconds for the 200 and 300-meter locations. This was done to simulate a single round being fired and to ensure that the total mass of the cloud had passed the hypothetical offsite resident locations. Concentrations were calculated every 2 or 5 seconds, depending on the location being modeled. The model results indicated that the initial cloud reached the hypothetical offsite resident at 300 meters within 237 seconds and dissipated below the lowest concentration the model calculated $(1 \times 10^{-12} \, \text{g/m}^3)$ within 401 seconds. Table 3 contains the air model input parameters used in this assessment.

TABLE 3: AIR MODEL INPUT PARAMETERS.

		Input Value	
Parameter	100 meters	200 meters	300 meters
Number of meteorological periods (NTIME)	1	1	1
Duration of each meteorological period (ITIME)	200 seconds	500 seconds	500 seconds
Number of updates to the source (NSRCDS)	. 100	100	100
Duration/time step between each source update (ISUPDT)	2 seconds	5 seconds	5 seconds
Total time modeled/Simulation Period (NTIME) (ITIME)= (NSRCDS) (ISUPDT)	200 seconds	500 seconds	500 seconds

5.5 USE OF MODEL OUTPUT

The concentrations provided by the INPUFF model were based on a unit emission rate (ER_{unit}) of 1 gram/second from an emission source, and did not represent any substance-specific concentrations from the use of any weapons system. This unit emission rate is typically used for ease of modeling purposes. The relationship between the emission rate and predicted concentration is linear. Therefore, the ratio of the predicted concentration to the unit emission rate was multiplied by each substance-specific emission rate to provide substance-specific concentrations.

5.6 DETERMINATION OF SUBSTANCE-SPECIFIC EMISSION RATES

The actual substance emission rate for one item (ER_1) for each substance was calculated using Equation 1. Example 1 contains a sample calculation using this equation when the M855 is fired from the M16A1 rifle.

$$ER_1 = \frac{EF \cdot CV}{t}$$
 Equation 1

Where:

ER₁ = emission rate for one item ((g/item)/sec)

EF = average adjusted emission factor (lb/item)

CV = conversion factor (453.59 g/lb)

t = release duration obtained from the INPUFF model (sec)

Example 1 Sample Calculation Using Equation 1:

$$ER_1 = \frac{(7.87 E - 04) (453.59)}{(5)}$$

= 7.140 E-02 g/sec

Calculation provided for Carbon Dioxide (CO_2) at the 300-meter location. Appendix B provides the average adjusted emission factor of CO_2 in Ib/item.

Substance-specific ambient concentrations for one item (CONC) were calculated using Equation 2. A sample calculation using this equation is provided in Example 2. Appendix B contains the estimated air concentrations for the 100, 200, and 300-meter locations.

$$CONC = ER_1 \cdot \frac{UC}{ER_{unit}}$$
 Equation 2

Where:

CONC = substance concentration based on one item (g/m³)

ER₁ = emission rate for one item (g/sec)

 ER_{unit} = unit emission rate as used in the model (g/sec)

UC = concentration based on the unit emission rate (g/m³)

Example 2 Sample Calculation Using Equation 2:

$$CONC = (7.140E - 02) \frac{(3.883E - 05)}{(1)}$$

$$= 2.772E-06 g/m^3$$

Calculation provided for CO_2 at the 300-meter location when fired from the M16A1 rifle.

6. RISK ASSESSMENT

6.1 EXPOSURE ASSUMPTIONS

Exposure assumptions were selected using a typical use scenario for the M855 during training exercises. The typical use scenario was provided by the AEC and is based on consultation with their senior training advisor (References 7, 8). The frequency of use for the M855 was required to determine how much substance an offsite resident would be exposed to in the time period of interest (i.e., acute or chronic exposure). Table 4 summarizes the general use scenario for the M855.

TABLE 4: FREQUENCY OF USE FOR THE M855

TABLE 4: FREQUENCY OF COLUMN THE MICE	
Parameter	Value Used
Number of cartridges used per year	1,440,622
Maximum number of cartridges used in 1- hour	1,000

6.2 TIME-AVERAGING

For the chronic assessment, time-averaged concentrations were calculated by assuming that the hypothetical offsite resident would be exposed for 30 years. This is consistent with the exposure duration used by the EPA, which assumes that the resident spends 30 years at the same residence. By using the same exposure duration, the estimated time-averaged concentrations can be compared with their respective HBSLs, which are derived using standard EPA default assumptions.

Using the default residence time established by the EPA, the assumption was made that someone could be exposed to air emissions from 1,440,622 cartridges per year for 30 years. Table 5 lists the exposure parameters used to estimate concentrations for the chronic assessment. These parameters are based on the typical use scenario provided by the AEC (Table 4) and the assumptions used in the air model run.

TABLE 5: EXPOSURE PARAMETERS USED TO DETERMINE TIME-AVERAGED CHRONIC AIR CONCENTRATIONS

Exposure Parameter		Value Used	
	100 meters	200 meters	300 meters
Exposure Time (ET _{cta})	3.33	8.33	8.33
	min/cartridge ¹	min/cartridge ¹	min/cartridge ¹
Exposure Frequency (EF _{ctg})		,622 cartridges	
Exposure Duration (ED)		30 years ²	

¹Based on the total model time of 200 seconds (3.33 minutes) or 500 seconds (8.33 minutes) used in the air model run.

²EPA default value.

Chronic averaged concentrations were calculated using Equation 3. Example 3 shows how this calculation was performed using the total suspended particulates (TSP) concentration at 300 meters when the M855 is fired from the M16A1 rifle as an example. Since TSP is classified as a noncarcinogen, the averaging time (AT) is the same as the exposure duration.

$$C_{chronic} = \frac{CONC \cdot 10^6 \cdot ET_{cig} \cdot \dot{E}F_{cig} \cdot ED}{525,600 \cdot AT}$$
 Equation 3

Where:

 $C_{chronic}$ = average chronic concentration ($\mu g/m^3$)

CONC = average modeled concentration for one cartridge (g/m³)

 10^6 = unit conversion (µg/g)

 ET_{ctg} = exposure time per cartridge (minutes/cartridge)

 EF_{ctg} = exposure frequency (cartridges/year)

ED = exposure duration (years) 525,600 = unit conversion (minutes/year)

AT = averaging time (years)

(carcinogenic endpoint: AT = 70 years, noncarcinogenic

endpoint: AT = ED)

Example 3 Sample Calculation Using Equation 3:

$$C_{chronic(TSP)} = \frac{(1.222 \text{E} - 07)(10^6)(8.333)(1,440,622)(30)}{(525,600)(30)}$$

$$= 2.79E+00 \mu g/m^3$$

Appendix B provides the average modeled concentration for one cartridge (CONC). Table 5 includes the exposure parameters.

Unlike the chronic assessment, only limited guidance for evaluating acute exposures is currently available. Since many cartridges may be fired in a short period of time, however, acute exposures cannot be overlooked. For the purpose of this assessment, acute exposure is defined as a 1-hour or 15-minute exposure. The 1-hour or 15-minute acute exposure averaging times allow for comparison with guidelines developed specifically for emergency planning purposes (see discussion on acute toxicity below).

The exposure frequency is based on the number of cartridges used per 1-hour or 15 minutes depending on the guideline used for comparison. This information is based on the use scenario provided in Table 4. To estimate air concentrations for potential acute health effects, it was conservatively assumed that 1,000 M855s are fired in 1-hour. The average acute concentrations were computed using Equation 4. Example 4 contains a sample calculation at 300 meters, when the M855 is fired from the M16A1 rifle, using this equation. Since TSP does not have an ATV, aluminum (AI) is used as the example substance.

$$C_{acute} = \frac{CONC \cdot 10^6 \cdot ET_{ctg} \cdot EF_{ctg}}{60}$$
 Equation 4

Where:

 C_{acute} = average acute concentration ($\mu g/m^3$)

CONC = average modeled concentration for one cartridge (g/m³)

 10^6 = unit conversion (µg/g)

ET_{cta} = exposure time per cartridge (minutes/cartridge)

 EF_{ctg} = exposure frequency (cartridges/hour)*

= unit conversion (minutes/hour)

* Based on 1-hour or 15 minute (0.25 hour) ATV

Example 4 Sample Calculation Using Equation 4:

$$C_{acute(AI)} = \frac{(3.671E - 10)(10^6)(8.333)(1,000/0.25)}{60}$$
$$= 2.04E-01 \, \mu g/m^3$$

Appendix B provides the average modeled concentration for one cartridge (CONC) for Al.

6.3 TOXICITY ASSESSMENT

The potential for human health effects was determined by comparing time-averaged air concentrations to HBSLs and ATVs, which are developed from a substance's known toxicity. These toxicity values typically include different levels of safety factors depending on the level of confidence of the critical study. Appendix C contains a table of screening toxicity values used for the chronic and acute assessments.

6.3.1 CHRONIC ASSESSMENT

The chronic assessment was conducted using a screening approach. Using this method, a substance's estimated time-averaged air concentration was compared to its HBSL by using the ratio of the HBSL to the estimated air concentration. If this ratio was less than one, no further analysis was necessary. This approach is conservative because the exposure assumptions used by the EPA, to establish HBSLs, assume that the resident is continuously exposed for 350 days per year (assuming 2 weeks vacation per year). In contrast, exposure to air emissions from actual training activities at a firing range is intermittent and is not likely to occur on a daily basis year round.

A hierarchy of sources was developed for selection of the HBSLs to quantitatively evaluate as many of the identified substances as possible. The hierarchy of sources used was as follows:

- Clean Air Act, EPA National Ambient Air Quality Standards (NAAQS) (Reference 11)
- > EPA Region 9 Preliminary Remediation Goals (PRGs) (Reference 10)
- EPA Region 3 Risk-Based Concentrations (RBCs) (Reference 9)

Some substances have neither PRGs nor RBCs because they have their own set of regulatory standards. Under the Clean Air Act, the EPA is required to establish NAAQS for several substances considered harmful to public health and the

environment. Currently, NAAQS are available for seven substances. The NAAQS for the longer averaging time were used for the chronic assessment. Depending on the substance, this can range from an 8-hour average to an annual average. In addition, since the majority of the measured TSP was PM₁₀ (particulate matter under 10 microns in size) (Reference 3), the NAAQS for PM₁₀ was used to evaluate the potential for health effects from exposure to TSP.

Next on the hierarchy, after the NAAQS, are the EPA Region 9 PRGs and the EPA Region 3 RBCs. Since the methodology used by EPA Region 9 to develop the PRGs generally results in lower values than the EPA Region 3 RBCs, the PRGs were first on the hierarchy of sources. RBCs were used when a PRG was not available. To ensure that the most recent information was used, the Internet sites of both EPA Regions were checked. The HBSLs used for this assessment are presented in Appendix C.

Although the general approach used by both EPA Region 3 and Region 9 is the same, the exposure assumptions differ enough so that final recommended values can vary to a certain degree. In both methods, a substance's screening concentration was selected using the toxicity endpoint that derives a lower concentration. For example, if a substance has a known systemic toxicity and is a carcinogen, the screening concentration was calculated using both toxicity values. To maintain a conservative approach, EPA then selected the lower screening concentration as the recommended PRG or RBC.

Example 5 shows a sample calculation of how a substance's estimated chronic concentration was compared to its HBSL using the TSP concentration at 300 meters, when the M855 is fired from the M16A1 rifle.

Example 5 Sample Calculation Comparing a Substance's Estimated Chronic Concentration to Its HBSL:

$$\frac{C_{chronic(TSP)}}{HBSL} = \frac{2.79E + 00}{5.00E + 01}$$
$$= 5.58E-02 < 1$$

In this case, the resulting ratio is less than one, indicating further evaluation is not necessary.

Many petroleum hydrocarbons were detected but do not have specific screening levels. Therefore, the approach recommended by the Total Petroleum Hydrocarbon Criteria Working Group (Reference 12) was adopted to evaluate petroleum hydrocarbon mixtures. Based on the working group's assessment of various hydrocarbons, it was recommended that mixtures be separated according to a

substance's number of carbons and its chemical class (i.e., aliphatic or aromatic1). Generally, as a substance's carbon number increases, its molecular weight increases, and it is, therefore, not a substance of concern via inhalation. The working group also concluded that aromatic hydrocarbons tend to be more toxic than aliphatic hydrocarbons (Reference 12). Table 6 tabulates the inhalation toxicity values used to evaluate exposure to petroleum mixtures. To be consistent with the methodology used in this assessment, the reference concentrations (RfCs) were converted to PRGs using Region 9 exposure assumptions. The resulting PRGs were used as the HBSLs for the petroleum hydrocarbons in this assessment. These values are presented in Appendix D.

TABLE 6: SUMMARY OF RfCs USED FOR PETROLEUM HYDROCARBONS¹

Carbon Range	Aromatic Inhalation RfC (mg/m³)	Aliphatic Inhalation RfC (mg/m³)
$C_5 - C_6$ $C_{>6} - C_8$		18.4
C>7 - C8	0.4	
$C_{>8} - C_{10}$ $C_{>10} - C_{12}$ $C_{>12} - C_{16}$	0.2	1.0
$C_{>16} - C_{21}$ $C_{>21} - C_{35}$	NA	NA

Reference 12

NA = not applicable for high molecular weight TPHs (Total Petroleum Hydrocarbons) (C_{>16}) because substances in this carbon range are not volatile and therefore, inhalation is not a pathway of concern.

6.3.2 ACUTE ASSESSMENT

An established method for assessing acute health effects is not currently available. In 1995 the EPA recognized the need for acute exposure guidelines for emergency response purposes and created the National Advisory Committee for Acute Exposure Guideline Levels (AEGLs) for Hazardous Substances. Currently, AEGLs are available for only a few substances.

To overcome the absence of acute toxicity data for the purposes of human health risk assessment, several state regulatory agencies have suggested that guidelines developed for emergency purposes be used in the interim. Although suggestions have been made to use occupational exposure limits (OELs) by applying additional safety factors (References 14, 15), OELs were not used in this assessment because they introduce even more uncertainty than the use of emergency guidelines. The OELs are designed to protect the workplace environment, and assume 8 hours a

¹ Aliphatic hydrocarbons are hydrocarbons in which the carbon atoms are joined by single covalent bonds consisting of two shared electrons (e.g., butane). Aromatic hydrocarbons have ring structures (e.g., benzene) (Reference 13).

day, 5 days a week exposures. By definition, these exposures are more chronic than acute.

In comparison, emergency planning guidelines are more appropriate because they are typically developed for exposures of 1-hour or less. In addition, safety factor are included as part of the guideline development so that the values are protective of the general population.

Emergency Response Planning Guidelines (ERPGs) published by the American Industrial Hygiene Association (AIHA) (Reference 16) and the Temporary Emergency Exposure Limits (TEELs) developed by the U.S. Department of Energy (DOE) (Reference 17) were used for this assessment, specifically the ERPG-1s and the TEEL-1s. Since TEEL-1s are intended for exposures up to 15-minutes, air concentrations compared to TEELs were averaged over a 15-minute period. Air concentrations compared to ERPGs and AEGLs were averaged over 1-hour, as these values are intended for 1-hour exposures.

For this assessment, the hierarchy of sources for ATV selection was as follows with each ATV defined below:

- ➤ EPA AEGL-1. "AEGL-1 is the airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure."
- ➤ AIHA ERPG-1. "The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to 1- hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor."
- ➤ DOE TEEL-1. "The maximum concentration in air below which it is believed nearly all individuals could be exposed without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor."

AEGLs were used first when available since they are developed specifically for the purpose of acute exposure assessments. The ERPGs were selected next, prior to a substance's TEEL, because they are vigorously reviewed before they are published whereas the TEELs are not.

Example 6 shows a sample calculation of how a substance's estimated acute concentration was compared to its ATV using the aluminum concentration at 300 meters, when the M855 is fired from the M16A1 rifle.

Example 6 Sample Calculation Comparing a Substance's Estimated Acute Concentration to Its ATV:

$$\frac{C_{acute(Al)}}{ATV} = \frac{2.04E - 01}{3.00E + 04}$$
$$= 6.80E - 06 < 1$$

In this example with AI, the ratio is less than one, indicating that further analysis is not necessary.

7. RISK CHARACTERIZATION

As previously described, the exposure assessment included calculations of time-averaged concentrations for both long-term (chronic) and short-term (acute) exposures. Using a screening approach, a substance's estimated time-averaged air concentration was then compared to chronic HBSLs or ATVs. The comparison was made using the ratio of the HBSL or ATV to the estimated concentration. This approach is conservative because the exposure assumptions used by the EPA, to establish HBSLs and ATVs, are likely to overestimate the exposures experienced by offsite residents living near firing ranges.

If this ratio was less than one, no further evaluation was needed. If the chronic or acute averaged concentrations (C_{chronic} and C_{acute}) were greater than the screening levels, resulting in a ratio greater than one, further evaluation would be warranted to determine the potential for health effects. Note that concentrations greater than the screening levels do not indicate an onset of health effects, but rather, the potential for such.

The chronic and acute assessments were conducted as outlined in Section 6.3. Appendix D presents results from the M855 risk characterization.

7.1 CHRONIC HEALTH RISK

The assessment at the 100-meter downwind hypothetical offsite resident location indicated that levels of hydrogen cyanide and lead from the M855 emissions were greater than their screening levels. Estimated concentrations were remodeled to a distance 200 meters downwind from the firing location. The results showed that concentrations of hydrogen cyanide were still greater than its HBSL when the M855 was fired from the M16A2 rifle. Estimated lead concentrations had decreased to a level below its HBSL. When the modeled distance was further increased to 300 meters, the estimated concentration of hydrogen cyanide decreased to a safe level. The estimated concentrations for all other substances were further reduced with all ratios below one.

At the 100-meter location, the ratio of estimated hydrogen cyanide concentrations to the HBSL was 1.95 when fired from the M16A1 rifle and 2.88 when

fired from the M16A2 rifle. Hydrogen cyanide is a colorless gas with a faint, bitter, almond-like odor. It is naturally produced by some microorganisms and can be found in a number of foods and plants. Example uses of hydrogen cyanide in industry include chemical production, photographic development, and some mining processes. There are no reports that hydrogen cyanide causes cancer. Long-term inhalation of hydrogen cyanide may result in breathing difficulties, heart pains, vomiting, blood changes, headaches, and enlargement of the thyroid gland (Reference 18).

Lead concentrations at the 100-meter location were higher than the screening level only when the M855 was fired from the M16A2 rifle. The ratio of estimated lead concentrations to the HBSL was 1.14. Lead is a naturally occurring bluish-gray metal found in the earth's crust in small amounts. It is commonly used in the production of lead-acid batteries for automotive and industrial applications. Exposure to lead in the air primarily results from emissions from industrial processes. The main target for lead toxicity is the nervous system. Studies have shown that continual inhalation of lead may cause blood effects (Reference 19).

Again, it should be noted that an estimated concentration that is higher than the HBSL does not indicate an onset of health effects, but rather that further evaluation using site-specific data is necessary.

7.2 ACUTE HEALTH RISK

The results from the acute assessment indicated that no acute health effects are expected from breathing the air emissions from the M855 at the 100-meter location. Since all ratios at the 100-meter location were below one, no further evaluation was needed. However, air concentrations were modeled at the 200- and 300-meter locations for consistency with the chronic assessment. Estimated concentrations at the 200- and 300-meter locations were even lower than for the 100-meter location.

7.3 FACT SHEET

Appendix E includes a copy of the fact sheet submitted to the AEC. The fact sheet used results from this assessment to address health concerns related to inhalation of M855 air emissions.

8. UNCERTAINTY DISCUSSION

The limitations inherent in modeling and the added conservatism of the assessment contribute to the uncertainty of the assessment results. The risk assessment methodology typically includes safety factors that are embedded in the toxicity data to ensure adequate protection of the general population, particularly, susceptible individuals such as the sick, elderly, and children. Table 7 identifies areas of uncertainty associated with this assessment.

TABLE 7: TYPES OF UNCERTAINTY

Issue	Uncertainty	Direction of Effect
	Emissions Modeling	
Modeled versus real- time sampling	The air concentrations in this assessment were modeled. Actual air concentrations taken from the field may be higher or lower.	Varies
Frequency of use for the M855	Actual frequency of use for these munitions during training exercises may be different from those stated in this report.	Varies
Hypothetical resident assumed to be located directly downwind	Unless the area around the training facility is populated, the chances that a person living directly downwind is low.	Overestimates
Use of worst-case meteorological conditions	To ensure that this assessment is applicable to most training areas, worst-case meteorological conditions were used in the air model.	Overestimates
	Exposure Assessment	
Comparing estimated concentrations to established screening levels	The Region 3 and Region 9 HBSLs were developed assuming that the resident is exposed 350 days per year. It is unlikely for training with the M855 to occur for 350 days per year at a particular firing range.	Overestimates
Estimating time- averaged concentrations	Actual exposure from the M855 is intermittent. If one were to plot a person's exposure profile, the plot would consist of a series of spikes. Since current risk assessment methodology does not allow the evaluation of the potential for health effects as a function of time, a single concentration, averaged over the exposure duration was used. In this assessment, the exposure durations used were 30 years and 1-hour or 15 minutes.	Varies
Comparing estimated concentrations to established screening levels	Comparison to screening levels does not account for possible cumulative effects of exposure to more than one substance.	Underestimates

TABLE 7: TYPES OF UNCERTAINTY

Issue	Uncertainty	Direction of Effect
Screening assessment versus calculating an average daily intake	Calculating an average daily intake allows the use of scenario-specific assumptions. However, unless the ratio of concentration to screening level approaches one, a screening assessment is useful as a first-cut evaluation.	Varies
Exposure to other munitions	Other munitions are typically used during the same training exercise. These items may contain similar or different substances from those detected in the M855 emissions.	Underestimates
	Toxicity Assessment	
Lack of toxicity data	Some substances were not quantitatively evaluated because they have no known toxicity data.	Underestimates
Modifying and uncertainty factors for toxicity data	Modifying factors and uncertainty factors of varying degree are typically applied to toxicological values. These factors are used to conservatively account for extrapolating from animal studies for human health evaluation, and to conservatively account for variation in human populations.	Overestimates

9. CONCLUSION

Using conservative assumptions, the assessment indicated that offsite residents who live as close as 300 meters directly downwind from the firing location are safe from breathing air emissions from the M855. It is believed that the assumptions contained in this analysis are conservative enough to be protective of all the population including the sick, elderly, and children.

10. RECOMMENDATIONS

At installations where offsite residents are located less than 300 meters from the M855 firing location, a more site-specific evaluation is recommended. However, it should be noted that at most training installations, training areas are located over 1,000 meters (over half a mile) away from populated areas.

The results from this assessment are intended for a hypothetical training facility, and actual results can vary depending on site-specific conditions. This assessment used conservative assumptions (e.g., worst-case meteorological conditions, receptor located directly downwind, etc.) and it is believed that most site-specific analyses would result in even lower concentrations. Therefore, the results from this

assessment should be applicable to most training facilities unless site-specific conditions vary significantly.

11. POINT OF CONTACT

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APPENDIX A
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APPENDIX B AIR DISPERSION MODELING OUTPUT DATA

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

		Cartridge 5:56-mm Ball, M855 (M16A1)	(M16A1)	VIII WAR	Punou L No of irounds (I) - The North Condition of the punous of the	**************************************	onnd
.4			A.	20	release duration (t): 🚜 🗢 🖟	seconds 2	econds
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· · · · · · · · · · · · · · · · · · ·	A	ATC Firing Test Results!					Substance
		Dally Transfer	200	-Average	Total Mass	Substance	Emission
	* * * *		Adjusted	Adjusted	1	(drame/m²)	oes/(meti/u)
	Actual	eackground.		TO SECTION		CONC	T.
Compound	Concentration (mo/m3)	Concentration	ractor (Er.) (Ib/liem)	(IB/IB/NEW)	e di marianta		
Comment of the Commen	A HISIN		100	2.44.1		A Secretary	
Ammonia (NH3)	1.75E+01	NA	2.84E-05	7.36E-03	1.288E-02	1.053E-06	6.439E-03
Carbon Dioxide (CO2)	4.85E+02	NA	7.87E-04	2.04E-01	3.570E-01	2.920E-05	1.785E-01
Carbon Monoxide (CO)	8.90E+02	AN	1.44E-03	3.74E-01	6.550E-01	5.358E-05	3.275E-01
Oxidos of Nitrogen (NOx)	4.35E+01	ΥN	7.05E-05	1.83E-02	3.200E-02	2.617E-06	1.600E-02
Sulfur Dioxide (SO2)	2.62E-01	AN	2	QN	ON	QN	Q
Sullul Dioxide (502)			**	1.0		1. 1.	
Hydroden Fluoride	2.25E-01	2.10E-01	QN	QN	QN	Q	Q
Tydrogen Chloride	2.15E-01	2.00E-01	2	Q	QN	ND	QN
Hydroden Bromide	2.15E-01	2.00E-01	QN	QN	QN	QN O	QN
Nitrio Acid	2.15E-01	2.00E-01	QN	ND	ND	QN	Q
Phosphoric Acid	2.15E-01	2.00E-01	QN	QN	QN	ND	Q
Sulfuric Acid	2.40E-01	2.00E-01	4.26E-07	1.11E-04	1.935E-04	1.582E-08	9.673E-05
Cvanide			30.44	1. 818		L. Line With the	
Darticulate Cvanide	9.30E-02	1.30E-02	9.29E-08	2.41E-05	4.215E-05	3.448E-09	2.107E-05
Hydrogen Cvanide	1.04E+01	1.90E-02	1.80E-05	4.66E-03	8.160E-03	6.675E-07	4.080E-03
Particulates					Color of the State of the Color of the Color		
Total Suspended Particulate	1.99E+01	AN	3.47E-05	8.99E-03	1.574E-02	1.287E-06	7.868E-03
Particulate Matter <10 microns	2.05E+01	NA	3.57E-05	9.26E-03	1.620E-02	1.325E-06	8.101E-03
Particulate Matter <2.5 microns	1.51E+01	NA	2.64E-05	6.84E-03	1.198E-02	9.800E-07	5.990E-03
Metals					A to the same of the same of the same	A 25 - 25 - 25 - 25 - 25 - 25 - 25 - 25	1 0000
Aluminum	1.29E-01	7.41E-02	1.04E-07	2.70E-05	4.727E-05	3.867E-09	2.364E-05
Antimony	7.74E-01	4.35E-02	1.35E-06	3.49E-04	6.115E-04	5.002E-08	3.058E-04
Arsenic	1.07E-02	1.09E-02	QN	ND	ND	QN	QN
Barium	2.26E-01	4,35E-02	3.94E-07	1.02E-04	1.786E-04	1.461E-08	8.929E-05
Beryllium	4.27E-02	4.35E-02	Q	QN	QN	QN .	QN !
Cadmium	4.27E-02	4.35E-02	Q	Q	QN	QN I	ON L
Calcium	3.05E-01	1.24E-01	3.31E-07	8.57E-05	1.500E-04	1.227E-08	7.500E-05

		STATE OF THE PARTICION AND ACTION	**Number of items tested:=>	-	The state of the s		
	Same of the second seco		7		Felease duration (n.	Senopole Services	2777
		Net Explosive Weight - N.E.W. (165) =>	E.W. ((bs) =>		3(86E-03* Unit Concentration (UC): (1636E-04 g/m²/(us)	1.836E-04	a/m,//a/s)
		ATC Firing Test Results			THE PARTY OF THE P		Substance
	Average	Daily	Average	Averane	70.0		3 3 3 4 4
	Measured	Measured	Adjusted	Adjusted	of Substance	Soncentration	Emission
		Background	Emission	Emission	Émitted	(arams/m³)	(n/Ham)/co.
Compound	ŏ	Concentration	Factor (EF)	Factor	: (grams/liefi)	CÓNC	ER.
	(ˈmg/m³)	(mg/m³)	(lb/item)	(Ib/Ib NEW)			
Chromium	4.27E-02	4.35E-02	QN	QN	QN	QN	CN
Cobait	4.27E-02	4.35E-02	QN	ND	QN	Q	QV
Copper	7.66E+00	7.46E-02	1.32E-05	3.42E-03	5.992E-03	4.901E-07	2.996E-03
Lead	2.09E+00	4.35E-02	3.63E-06	9.41E-04	1.646E-03	1.347E-07	8.232E-04
Iviagriesium	4.27E-02	4.35E-02	QN	ND	QN	QV	9
Vianganese	4.27E-02	4.35E-02	Q	ND	QN	QN	QV
Nickel	4.27E-02	4.35E-02	QN	ND	QN	S	QN
Selenium	1.07E-02	1.09E-02	QN	ND	QN	Q	QN
Silver	4.27E-02	4.35E-02	QN	QN	QN	2	CN
I nailium	4.27E-02	4.35E-02	Q	Q.	QN	QN	S
Vanadium	4.27E-02	4.35E-02	QN	Q	QN	QN	CN
Zinc	9.96E-01	4.35E-02	1.73E-06	4.49E-04	7.867E-04	6.435E-08	3 933F-04
10-11 Carbonyls				1.75			
Formaldehyde	3.07E-02	1.23E-01	5.34E-08	1.38E-05	2.423E-05	1.982E-09	1 212E-05
Acetaldehyde	1.80E-01	1.80E-01	QN	QN	QN	QN	
Acetone	1.19E+00	1.19E+00	QN	Q	QN	QN	GN.
Acrolein	2.29E-01	2.29E-01	QN	ND	QN	QN	QN.
Proprionaldenyde	5.94E-03	2.37E-01	1.04E-08	2.70E-06	4.718E-06	3.859E-10	2.359E-06
Brityraldehyde	2.8/E-01	2.87E-01	Q.	9	QN	ND	QN
Renzaldehyde	4.345.04	Z.95E-01	2	Q	QN	QN	QN
Isovaleraldehyde	2 52E 04	4.34E-01	Q.	2	ND	QN	ND
Valeraldehvde	3.325-01	3.52E-01	Q	Q	QN	QN	QN
o m n-Toltialdehide	3.32E-01	3.52E-01	Q	Q	ND	QN	QN
Hoveldehyde	4.916-01	4.91E-01	Q	Q.	ND	Q	QN
2 & Dimothylhonzoldobudo	4.10E-01	4.10E-01	Q	QN	QN	Q	QN
Z,J-Dillieulyipenzaidenyde	4.10E-01	4.10E-01	2	QN	QN	QN	QN
300							THE PROPERTY OF THE PARTY OF TH
Fropene	4.99E-02	3.44E-03	8.17E-08	2.12E-05	3.704E-05	3 030F-09	1 852E 05

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	Cart	tridge, 5.56-mm Ball./M855 (M16A1)	55 (M16A1)		No. of rounds (I) the section	Tound I.	round
	一年 一		======================================		1.55.	2	seconds
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		ATC Firing Test Results!		A POST			Substance
	Ġ.	* Dally*	200	Average *	TotaliMass	Substance	Emission
	Measured	Measured	Adjusted	Adjusted	in	Concentration	Rate
	Actual	Background	Emission	Emission	· · · · · · · · · · · · · · · · · · ·	* (grams/m²)	(g/Item)/sec
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	CONC	吊
· · · · · · · · · · · · · · · · · · ·	(mg/m³)	(mg/m)	(lb/item)	(levib Nerv)			
Dichlorodiflouromethane	1	2.97E-03	3.67E-10	9.50E-08	1.664E-07	1.361E-11	8.318E-08
Chlorodifluoromethane	3.54E-03	3.54E-03	QN	QN	QN	Q	QN
Freon 114	6.99E-03	6.99E-03	QN	QN	QN	QN	Q
Chloromethane	1.45E-03	2.07E-03	2.52E-09	6.52E-07	1.142E-06	9.341E-11	5.710E-07
Vinyl Chloride	2.56E-03	2.56E-03	ND	ΩN	ND	QN	Q
1,3-Butadiene	4.42E-03	2.21E-03	7.66E-09	1.98E-06	3.473E-06	2.841E-10	1.737E-06
Bromomethane	3.88E-03	3.88E-03	ND	ND	QN	DN	QN
Chloroethane	2.64E-03	2.64E-03	ND	ND	ND	QN	2
Dichlorofluoromethane	4.21E-03	4.21E-03	QN	QN	QN	QN	2
Trichloroflouromethane	1.12E-03	1.69E-03	ND	QN	QN	QN	QN
Pentane	2.36E-03	·5.90E-03	ND	ND	QN	QN	QN
Acrolein	2.29E-03	2.29E-03	ND	QN	ND	ND	QN
1,1-Dichlorethene	4.05E-03	4.05E-03	ND	QN	ND	ND	QN
Freon 113	7.68E-03	7.68E-03	ND	QN	ND	QN	QN
Acetone	9.98E-01	5.23E-01	8.87E-07	2.30E-04	4.022E-04	3.290E-08	2.011E-04
Methyl lodide	5.81E-03	5.81E-03	QN	QN	ND	QN	QN
Carbon Disulfide	3.11E-03	3.11E-03	ND	ND	ND	QN	QN
Acetonitrile	1.17E-01	1.68E-03	2.04E-07	5.28E-05	9.236E-05	7.555E-09	4.618E-05
3-Chloropropene	3.13E-03	3.13E-03	Q	QN	QN	ND	QN
Methylene Chloride	1.27E-01	9.03E-02	7.37E-08	1.91E-05	3.344E-05	2.735E-09	1.672E-05
tert-Butyl Alcohol	3.03E-03	3.03E-03	5.20E-09	1.35E-06	2.358E-06	1.929E-10	1.179E-06
Acrylonitrile	3.26E-02	2.17E-03	5.68E-08	1.47E-05	2.578E-05	2.109E-09	1.289E-05
trans-1,2-Dichloroethene	3.96E-03	3.96E-03	ND	ND	ON	ON	2
Methyl t-Butyl Ether	1.08E-03	1.08E-03	1.67E-10	4.33E-08	7.585E-08	6.204E-12	3.792E-08
Hexane	6.34E-01	3.31E-01	5.65E-07	1.46E-04	2.562E-04	2.095E-08	1.281E-04
1,1-Dichloroethane	3.97E-03	3.97E-03	Q	QN	ND	QN	QN
Vinyl Acetate	3.52E-03	3.52E-03	QN	ND	ON	QN	QN
cis-1,2-Dichloroethene	3.96E-03	3.96E-03	QN	QN	QN	Ð	Q

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

Compound Concentration C				. +20 →	release Huration (file	が の	2 coronde
ompound te cettane	1	The same of the sa				3	מטכנו
ompound te oethane chloride	1 (4)	Net Explosive Weight - N.E.W. (lbs) =⊳		3.86E:03	3.86E-03 - Unit concentration (UC);		1.636E-04 g/m³/(g/s)
ompound te oethane chloride		ATC Firing Test Results			でする。		Substance
ompound te cethane	rage	Dally	Average	Average	Total Mass	Substance	Emission
ompound te oethane chloride	sured	Measured	Adjusted	Adjusted	of Substance	Concentration	Rate
ompound te oethane chloride	\$10.		Emission	Emission	L Emilled	(grams/m³)	(a/item)/sec
te oethane chloride	and the second	Concentration	Factor (EF)	Factor	graffis/iteh)	CONC	ER,
te oethane chloride		(mg/m)	(lb/ltem)	(Ib/Ib/NEW)			
te oethane chloride	E-03	2.95E-03	Q	ND	QN	QN	QN
	E-03	3.60E-03	1.26E-08	3.26E-06	5.708E-06	4.669E-10	2.854E-06
	E-03	3.52E-03	Q	QN	QN	QN	QN
	E-03	4.88E-03	QN	QN	QN	QN	QN
	E-03	5.46E-03	2.81E-09	7.28E-07	1.273E-06	1.042E-10	6.367E-07
2	E-03	6.29E-03	QN	QN	QN	QN	QN
orethane	E-03	4.05E-03	1.41E-08	3.66E-06	6.411E-06	5.244E-10	3.206E-06
Benzene 3.51E-01	E-01	1.92E-03	6.11E-07	1.58E-04	2.769E-04	2.265E-08	1.385E-04
Isooctane 4.67E-03	E-03	4.67E-03	QN	QN	QN	QN	QN
	E-03	1.23E-03	1.90E-10	4.93E-08	8.622E-08	7.053E-12	4.311E-08
96	E-03	4.88E-03	QN	QN	QN	QN	QN
	E-03	4.09E-03	QN	Q.	QN	QN	QN
	E-03	. 4.62E-03	QN	QN	QN	QN	ND
ate	E-03	4.09E-03	QN	QN	QN	QN	ND
hane	E-03	7.11E-03	ND	QN	QN	QN	QN
	E-03	3.60E-03	QN	QN	QN	QN	QN
0)	E-03	6.70E-03	QN	QN	QN	QN	QN
-2-Pentanone	E-03	4.10E-03	QN	ON	QN	QN	QN
m.	E-02	2.64E-03	2.86E-08	7.42E-06	1.298E-05	1.062E-09	6.492E-06
	E-03	4.67E-03	2.40E-09	6.23E-07	1.090E-06	8.919E-11	5.452E-07
propene	E-03	4.54E-03	QN	ND	QN	QN	QN
	E-03	4.67E-03	QN	QN	QN	QN	QN
ne	E-03	5.46E-03	QN	QN	QN	QN	QN
ethene	E-03	6.78E-03	QN	ND	QN	QN	QN
	E-03	4.10E-03	QN	ON	QN	QN	ND
lane	E-03	8.52E-03	ΩN	ND	QN	QN	QN
ane	E-03	7.68E-03	QN	ND	QN	QN	QN
Chlorobenzene 4.60E-03	E-03	4.60E-03	QN	QN	QN	QN	Q

B-5

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	See Assessment Company of the Party of the P	1. こういうこうこう こうつき		に一つながればない。			seconds
	en s		E.W. ((bs) =>	48'6E'03"	Unit concentration (UC):	**: 1.636E:04 g/m"/(g/s)	//m³/(g/s)
1000年		ATC Firing Tast Results!	.				Substance
一个大人的一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	Average	* Dally	Average	Average	TotaliNassi	- Substance	Emission
	Measured	Measured	Adjusted	Adjusted II	of Substance	Corroentration	Rate
こうか とうしょう はんしゅう はんしゅう かんしゅう かんしゅん かんしゅ かんしゅん かんしゃ かんしゃ かんしゃ かんしゃ かんしゃ かんしゃ かんしゃ かんし	Actual	Background	Emission	Erilission	Emilied	(gřámš/m³)	(g/item)/sec
Compound	Concentration	Concentration	Factor (EF)	Factor	grams/item)	CONC	F.
	(ma/m³)	(m/om)	(lb/item)	(Ib/IB/NEW)			
1 1 2-Tetrachloroethane		6.87E-03	QN	QN	ND	QN	Q
Ethylbenzene	1	4.34E-03	2.65E-09	6.86E-07	1.201E-06	9.821E-11	6.003E-07
m/p-Xvlene	3.69E-03	1.74E-03	3.61E-09	9.35E-07	1.636E-06	1.338E-10	8.179E-07
o-Xvlene	2.61E-03	4.34E-03	4.51E-09	1.17E-06	2.045E-06	1.673E-10	1.023E-06
Styrene	3.41E-03	4.26E-03	5.92E-09	1.54E-06	2.687E-06	2.198E-10	1.344E-06
Bromoform	1.03E-02	1.03E-02	QN	QN	ND	QN	Q
Cimene	4.92E-03	4.92E-03	QN	QN	ND	QN	Q
1 1 2 2-Tetrachlorethane	6.87E-03	6.87E-03	QN	DN	ND	QN	ND
1.2.3-Trichloropropane	6.03E-03	6.03E-03	Q	QN	ND	QN	Q
Bromobenzene	6.42E-03	6.42E-03	QN	QN	QN	QN	ON
4-Ethyltoluene	1.97E-03	4.92E-03	3.37E-09	8.74E-07	1.530E-06	1.251E-10	7.648E-07
1.3.5-Trimethylbenzene	4.92E-03	4.92E-03	ND	QN	QN	QN	ND
Alpha Methyl Styrene	4.83E-03	4.83E-03	QN	ND	ND	QN	Q
1.2.4-Trimethylbenzene	2.46E-03	4.92E-03	4.22E-09	1.09E-06	1.912E-06	1.564E-10	9.561E-07
1 3-Dichlorobenzene	6.01E-03	6.01E-03	Q	Q.	QN	QN	QN
1 4-Dichlorobenzene	6.01E-03	6.01E-03	ND	QN	ON	QN	Q
Benzyl Chloride	5.18E-03	5.18E-03	QN	QN	ND	QN	QN
1.2-Dichlorobenzene	6.01E-03	6.01E-03	QN	QN	QN	QN	2
Hexachlorethane	9.68E-03	9.68E-03	QN	QN	QN	Q	QN
1.2.4-Trichlorobenzene	7.42E-03	7.42E-03	QN	ON O	QN	QN	QN
Hexachlorobutadiene	1.07E-02	1.07E-02	QN	QN	QN	Q	QN
VOC Tentatively Identified Compounds (TICs)	pounds (TICs)						
Hydrocarbons			19 mg			A CALL CONTRACTOR	400
Methane	6.40E+00	1.47E+00	8.80E-06	2.28E-03	3.989E-03	3.263E-07	1.995E-03
Ethylene	3.76E-01	2.29E-02	6.56E-07	1.70E-04	2.975E-04	2.434E-08	1.488E-04
Acetylene	5.27E-02	2.13E-02	9.18E-08	2.38E-05	4.164E-05	3.406E-09	2.082E-05
Ethane	2.13E-01	2.46E-02	3.73E-07	9.67E-05	1.692E-04	1.384E-08	8.459E-05
Dronglond	5 59F-02	3 44F-02	9 76F-08	2 53F-05	A 429F-05	3 623F-09	2 214F-05

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	いっちからの 電子を いかい	TI COMPONENT OF THE PROPERTY OF THE	Number of items tested =>	1 JUGH	PALACE ANDARISE 711.		Pilipoli
	1000年代の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	Net Explosive Weight. N.E.W. (lbs) =>		3.86E703	Unit Coricentration (IIC)	2 seconds	seconds d/m²/(d/s)
		ATC Firing Test Results					Substance
	Average	Oally	Average	Averade	Total Mass	.énhetono	
	Measured	Méasured	Adjusted	Adjústed	of Substance	Concentration	Diffishor
1. 9 · 1. 5 · 4 · 1. 5 · 1. 6 · 1. 6 · 1. 6 · 1.	Actual	Background	Emission	Emission	Emitted	(grams/m³)	(dillem)/eec
Compound	ŏ	Concentration	Factor (EF)	Factor	(grams/item)	CONC	ER.
f	(mg/m³)	(m/gm)	(Ib/Item)	(Ib/IB/NEW)			
Propane	3.61E-02	3.61E-02	QN	QN	QN	CN	CN
Propyne	3.20E-02	3.20E-02	Q	QN	QN	S	S
Isobutane	4.75E-02	4.75E-02	Q	QN	QV	Q	C Z
1-Butene/Isobutylene	4.59E-02	4.59E-02	QN	QN	QN	9	QN
1,3-Butadiene/butane	6.88E-02	6.88E-02	QN	QN	QN	QN.	QN
cis-butene	4.59E-02	4.59E-02	QN	QN	QN	NO	QN
1-Butyne	4.59E-02	4.59E-02	QN	QN	QN	QN	QN
trans-Butene	4.59E-02	4.59E-02	QN	QN	QN	QN	QN
2-Butyne	4.42E-02	4.42E-02	QN	QN	QN	QN	QN
n-Pentane	5.90E-02	5.90E-02	QN	QN	QN	QN	CN
n-Hexane	3.93E-01	2.71E-01	2.38E-07	6.18E-05	1.082E-04	8.849E-09	5.409F-05
SVOCS							
N-nitrosodimethylamine	1.84E-02	1.90E-02	QN	QN	QN	Q.	QN
Bis(2-chloroethyl)ether	1.84E-02	1.90E-02	QN	QN	QN	Ð	QN
Pnenol	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
z-cnlorophenol	1.84E-02	1.90E-02	QN	QN	QN	Q.	QN.
1,3-dichlorobenzene	1.84E-02	1.90E-02	QN	QN	QN	Q	QN
1,4-dichioropenzene	1.84E-02	1.90E-02	QV	QN	QN	QV	QN ON
1,2-dichlorobenzene	1.84E-02	1.90E-02	Q	ND	QN	QN	QN
Derizyi arconol	1.84E-02	1.90E-02	2	QN	QN	QN	Q
BIS(Z-chiloroisopropyi)ether	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
Z-metnylphenol	1.84E-02	1.90E-02	Q	ND	QN	QN	QN
Hexacnioroetnane	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
N-nitroso-di-n-propylamine	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
4-metnyiphenoi	1.84E-02	1.90E-02	Q	QN	ND	QN	QN
looperizene	1.84E-02	1.90E-02	Q	ND	QN	QN	QN
Isopriore	1.84E-02	1.90E-02	Q	ND	QN	S	QN
z-nitrophenoi	1.84E-02	1.90E-02	QN	QN	QN	Q	CN

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	Cart	artidge, 5.56-inm Ball, MB55 (M16A1). *** *** *** (No. etreunde 1)	155 (M16A1)		No.sefirounds.(II)		round
			ems tested =>	* 20	Firelease duration (b): 😢 🖺	7	seconds
	9N	Net Explosive dan Ewellbs) = 3.86E 03	ENV. ((BS))=>	3,86E-03	UNIRCONCENTRAINER (UC):T	### ## 636E 104	g/m³/(g/s)
		ATC Firing Test Results1					Substance
	Average	Daily	Average	Average:	Total Mass	· Substance	Émission
		Measured •	Adjusted	Adjusted.	· · · enot Sübstance	Concerniation	Rate
	A 1 3 1	Background	Emission	Emission	Emitted	(grams/m³)	'(g/item)/sec
Compound	ŭ	Concentration	Factor (EF)	Factor	(grams/jtem)	CONC	ER.
	(mg/m³)	(mg/m)	(lb/ltem)	(Ib/Ib NEW)	Same some state of the contract of the state of		
2,4-dimethylphenol	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
Bis(2-chloroethoxy)methane	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
2,4-dichlorophenol	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
1,2,4-trichlorobenzene	1.84E-02	1.90E-02	ND	QN	QN	QN	QN
Naphthalene	1.49E-02	1.90E-02	2.61E-08	6.77E-06	1.185E-05	9.690E-10	5.923E-06
4-chloroaniline	1.84E-02	1.90E-02	QN	ON	QN	QN	QN
Hexachlorobutadiene	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
4-chloro-3-methylphenol	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
2-methylnaphthalene	1.84E-02	1.90E-02	QN	ON	QN	QN	QN
Hexachlorocyclopentadiene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
2,4,6-trichlorophenol	1.84E-02	1.90E-02	ND	QN	QN	QN	QΝ
2,4,5-trichlorophenol	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
2-chloronaphthalene	1.84E-02	1.90E-02	ND	QN	QN	QN	QN
2-nitroaniline	1.84E-02	1.90E-02	ND	QN	QN	QN	ND
Acenaphthylene	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
Dimethylphthalate	1.84E-02	1.90E-02	ND	ON	QN	QN	QN
2,6-dinitrotoluene	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
Acenaphthene	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
3-nitroaniline	3.67E-02	3.79E-02	QN	QN	QN	QN	QN
2,4-dinitrophenol	3.67E-02	3.79E-02	QN	QN	QN	QN	QN
Dibenzofuran	1.84E-02	1.90E-02	QN	QN	ON	QN	QN
2,4-dinitrotoluene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
4-nitrophenol	3.67E-02	3.79E-02	QN	ND.	QN	QN	Q
Fluorene	1.84E-02	1.90E-02	QN	ND	ON	ON	QN
4-chlorophenyl-phenylether	1.84E-02	1.90E-02	QN	QN	ND	QN	QN
Diethylphthalate	1.84E-02	1.90E-02	QN	ON	QN	QN	QN
4-nitroaniline	3.67E-02	3.79E-02	QN.	QN	QN	QN	QN
4,6-dinitro-2-methylphenol	3.67E-02	3.79E-02	QN	QN	QN	QN	QN

	大 一 一 一 一 一 一 一 一 一 一 一 一 一 一 一 一 一 一 一	The state of the s	THE PERSON NAMED IN				
			Z-(DA)SA)	. K. 170	Mulliber, of the fils the step = 7 (1.7.20) (1.7.20)	4	seconds
			E:W ([bs) =>	3:86 <u>E</u> -03	EXPLOSIVE WEIGHT NIEW ((bs) => 3.86E03 Unit concertration (UC)	1.636E.04 g/m³/(g/s)	(s/b)/, w/b
		ATC Firing Test Results1					Substance
	Average	Masiliad	Average	Average	Total/Näss	Substance	Emission
			paisnin	Adjusted		Concentration	Rate
			EMISSION	Emission	Emitted	(grams/m²)	(g/item)/sec
Compound	Concentration	O	Factor (EF)	Factor	(graffis/item)	CONC	别
	(mg/m²)	(mg/m³)	(lb/ltelm)	(Ib/Ib) NEW)			
N-nitrosodiphenylamine(1)	1.84E-02	1.90E-02	QN	QN	ND	QN	CN
4-bromophenyl-phenylether	1.84E-02	1.90E-02	ΩN	QN.	QN	QN	CN
Hexachlorobenzene	1.84E-02	1.90E-02	QN	QN	QN	QN	CZ
Pentachlorophenol	3.67E-02	3.79E-02	QV	Q	QN	QN	QN
Phenanthrene	1.84E-02	1.90E-02	QN	QN	QN	Q	QN
Anthracene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Di-n-butylphthalate	1.39E-02	1.90E-02	2.42E-08	6.26E-06	1.096E-05	8.963E-10	5.479F-06
Fluoranthene	1.84E-02	1.90E-02	QN	QN	QN	QN	CN
Pyrene	1.84E-02	1.90E-02	QN	QN	QN	QN	CZ
Butylbenzylphthalate	1.84E-02	1.90E-02	Q	QN	ND	QN	S
Benzo(a)anthracene	1.84E-02	1.90E-02	ND	Q	QN	QN	QN
Chrysene	1.84E-02	1.90E-02	QN	Q	QN	QN	QN
3,3-dichlorobenzidine	1.84E-02	1.90E-02	QN	QN	ND	Q	QN
Bis(2-ethylhexyl)phthalate	3.22E-01	4.93E-02	4.76E-07	1.23E-04	2.160E-04	1.767E-08	1.080E-04
Di-n-octylphthalate	1.84E-02	1.90E-02	ND	DN	QN	QN	QN
Benzo(b)fluoranthene	1.84E-02	1.90E-02	ON	QN	QN	QN	QN
Benzo(k)fluoranthene	1.84E-02	1.90E-02	ON	ND	QN	QV	QN
Benzo(a)pyrene	1.84E-02	1.90E-02	QN	ΩN	QN	QN	QN
Indeno(1,2,3-cd)pyrene	1.84E-02	1.90E-02	QN	QN	ON	QN	S
Ulberiz(a,n)anmacene	1.84E-02	1.90E-02	Q	QN	ND	QN	QN.
Benzo(g,n,l)perylene	1.84E-02	1.90E-02	ΩN	ΩN	QN	Q	QN
SVOC Tentatively Identified Compounds (TICs)	(LICS)						
TO-13 (PAHS)				1.54.74	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
Naphthalene	7.97E-03	2.46E-03	9.90E-09	2.57E-06	4.490E-06	3.673E-10	2.245E-06
Acenaphthylene	2.29E-04	1.90E-05	3.99E-10	1.03E-07	1.811E-07	1.482E-11	9.057E-08
Acenaphthene	7.52E-05	3.03E-05	8.18E-11	2.12E-08	3.710E-08	3.035E-12	1.855E-08
Fluorene	1.69E-04	3.03E-05	2.44E-10	6.33E-08	1.107E-07	9.059E-12	5.537E-08
Phenanthrene	2.57E-04	5.31E-05	3.62E-10	9.37E-08	1.641E-07	1.342E-11	8 204F-08

3/2/01

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	Cart	artridge, 5,56/mm Ball, Me	355 (M16A1) 🐮	THE PARTY OF THE P	idge, 5.56 mm Ball, M855 (M16A1) Tets and Nonotrounds (I)	Jennou II Found	round
		Number of It	Number of Items tested ⇒>	1,120	120 release duration (t): 🖟 🖘	4	seconds
	ON WES	Net Explosive Weight - N.E.W. ((Ibs) = 5		1.3.86E-03 # L	Unilkooneemtetion(UO)	### ##636E-04 g/m²/(g/s)	@/m,*/(g/s)
		ATC Firing Test Results		Section 1			Substance
	Average	* Coally A	200	Averages	TotalMass	Substance	Emission
	Measured		Adjusted	Adjūstėd	ofSUbstance	- Concentration	Rate
1000年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	Actual	Background	Emišsion	Emission	EMITTED 1	(grams/m,)	(g/item)/sec
Compound	Concentration	Concentration	Factor (EF)	Factor	(giaffis/tidm)	CONC	, Z
	(ma/m³)	((lb/item):	(Ib/Ib/NEV)			
Anthracene	3.03E-05	1.90E-05	5.31E-11	1.38E-08	2.408E-08	1.970E-12	1.204E-08
Fluoranthene	2.39E-04	1.90E-05	4.17E-10	1.08E-07	1.893E-07	1.549E-11	9.467E-08
Pyrene	5.14E-04	1.90E-05	9.00E-10	2.33E-07	4.081E-07	3.339E-11	2.041E-07
Benzo(a)anthracene	9.91E-05	1.90E-05	1.73E-10	4.48E-08	7.842E-08	6.415E-12	3.921E-08
Chrysene	1.18E-04	1.90E-05	2.06E-10	5.35E-08	9.367E-08	7.662E-12	4.683E-08
Benzo(b)fluoranthene	2.20E-04	1.90E-05	3.85E-10	9.97E-08	1.744E-07	1.427E-11	8.722E-08
Benzo(k)fluoranthene	8.63E-05	1.90E-05	1.51E-10	3.91E-08	6.836E-08	5.592E-12	3.418E-08
Benzo(e)pyrene	3.49E-04	1.90E-05	6.08E-10	1.58E-07	2.758E-07	2.256E-11	1.379E-07
Benzo(a)pyrene	1.18E-04	1.90E-05	2.07E-10	5.36E-08	9.378E-08	7.671E-12	4.689E-08
Indeno(1,2,3-cd)pyrene	2.02E-04	1.90E-05	3.53E-10	9.14E-08	1.599E-07	1.308E-11	7.995E-08
Dibenz(a,h)anthracene	3.48E-05	. 1.90E-05	6.06E-11	1.57E-08	2.751E-08	2.250E-12	1.375E-08
Benzo(g,h,i)perylene	7.07E-04	1.90E-05	1.24E-09	3.20E-07	5.606E-07	4.586E-11	2.803E-07
Dioxins and Furans				14.5.2.5.			100
2378-TCDD	5.02E-09	4.41E-09	Q	Q	QN	QN	2
12378-PECDD	2.86E-09	2.50E-09	QN	ND	QN	Q	Q
123478-HXCDD	2.58E-09	2.45E-09	QN	QN	Q	Q	Q
123678-HXCDD	2.64E-09	2.51E-09	Q	Q	QN	Q	Q
123789-HXCDD	2.45E-09	2.33E-09	ΩN	Q	QN	Q	Q
1234678-HPCDD	4.93E-09	3.75E-09	8.65E-15	2.24E-12	3.923E-12	3.209E-16	1.961E-12
OCDD	6.04E-08	4.61E-08	3.09E-14	8.00E-12	1.400E-11	1.145E-15	6.999E-12
2378-TCDF	2.08E-09	1.80E-09	ND	QN	QN	2	9
12378-PECDF	2.47E-09	2.22E-09	QN	QN	ON	QN	Q
23478-PECDF	2.52E-09	2.39E-09	ND	QN	QN	Q	9
123478-HXCDF	1.55E-09	1.52E-09	ND	QN	QN	Q	Q
123678-HXCDF	1.54E-09	1.49E-09	DN	QN	ON	QN	QN
123789-HXCDF	4.23E-09	4.58E-09	QN	QN	QN	2	Q
234678-HXCDF	1.68E-09	1.60E-09	QN	Q	2	Q	2
1234678-HPCDF	9.18E-10	7.64E-10	1.67E-15	4.33E-13	7.585E-13	6.204E-17	3.792E-13

Table B-1: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 100 meter location

	Carl	idge	855 (M16A1)		No: of rounds (II)	1	1 round
		Number of Items tested =>	ems tested ⇒>	20.	release duration (t): 📮	7	2 seconds
	e V	Net Explosive Weight - N.E.W. (lbs) =>	E.W. (lbs) =>	3.86E-03	3.86E-03. Unit Concentration (UC):-	1.636E-04 g/m³/(g/s)	(s/g)/ _s ,m/g
(1) 東京の東京の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の大学の		ATC Firing Test Results					Substance
	Average	Daily	Average	Average	Total Mass	Substance	Emission
のでは、これのでは、ないでは、できないできないできない。 まつい かいしょう アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド・アンド・		Measured	Adjusted	Adjusted	of Substance	Concentration	Rafe
	1	Background	Emission	Emission	Emiffed	(grams/m³)	(a/item)/sec
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/nem)	CONC	ER.
	(mg/m³)	(mg/m³)	(lb/item)	(IB/IB/NEW)			
1234789-HPCDF	2.42E-09	6.29E-09	QN	ON	QN	ON	CN
OCDF	3.21E-09	2.70E-09	QN	QN	QN	Q	QN
Energetics					S. C.		
Nitrobenzene	3.55E-03	NA	QN	QN	ND	ND	QN
2-Nitrotoluene	3.55E-03	NA	QN	QV	QN	QN	QN
3-Nitrotoluene	3.55E-03	NA	QN	QN	QN	QN.	QN
4-Nitrotoluene	3.55E-03	NA	ΩN	QN	QN	QN	S
Nitroglycerine	3.55E-03	NA	Q	ND ND	QN	QN	CN
1,3-Dinitrobenzene	3.55E-03	NA	QN	QN	QN	2	Q
2,6-Dinitrotoluene	3.55E-03	NA	QN	QN	QN	S	QN
2,4-Dinitrotoluene	3.55E-03	NA	QN	ND	QN	QN	QN
1,3,5-Trinitrobenzene	3.55E-03	NA	QN	ND	QN	QN	Q
2,4,6- I rinitrotoluene	3.55E-03	NA	QN	QN	ND	QN	QN
RUX	3.55E-03	NA	Q.	QN	QN	QN	QN
4-Amino-2,6-Dinitrotoluene	3.55E-03	NA	QN	QN	QN	QN	QN
Z-Amino-4,6-Dinitrotoluene	3.55E-03	NA	S N	QN	QN	QN	QN
letryl	3.55E-03	NA	Q	ND	QN	QN	QV
HMX	7.10E-03	NA	QN	QN	QN	Q	QN
Pentaerythritoltetranitrate	7.10E-03	NA	Ŋ	Ð	QN	QN.	QN
Dibutyl phthalate	1.77E-01	NA	QN	QN	QN	Q	S
Dioctyl phthalate	1.77E-01	NA	Q	QN	QN	Q	S
Diphenylamine	8.87E-02	NA	Q.	QN	QX	S	CN CN
Footnotes:							

'ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study)

NA = Not Applicable

ND = Not Detected

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

	Cartrid	ridge, 5:56-mm Ball, M855 (M16A2)	355 (M16A2) ms tested ⇒> W (lbs.) ±\$	386503	Mark Total (No. of rounds (I). Mark Total (Olds Social August). Mark Total (Inc.)	S 139 7	round seconds
	ATC	C Firing Test,Results1				(g/s) (g/s)	g/m/(g/s)
		Daily		. Average	TotaliMass	Sübstance	Substance
いたとは、大はないできないでは、大きなないのではないできないというできます。この世界のは、大きなないのでは、大きなないのでは、大きなないのでは、これでは、これでは、これでは、これでは、これでは、これでは、	Measured	Measured	Adjusted		of Substance	Concentration	Emission
	Adual	Background	Emission	Emission	Emmed		'Răte
	Concentration	Concentration	Factor (EF)	Factor	: (grams/liem)	(grams/m³)	(g/item)/sec
	(mg/m)	(mg/m)).	(lb/jtem)	(Ib/Ib/NEW)		CONC	L
Permanent Gases							
Ammonia (NH3)	3.41E+01	NA NA	3.35E-05	8.69E-03	1.521E-02	1.244E-06	7.604E-03
Carbon Dioxide (CO2)	8.35E+02	NA	8.21E-04	2.13E-01	3.722E-01	3.045E-05	1 861E-01
Carbon Monoxide (CO)	1.63E+03	NA	1.60E-03	4.16E-01	7.278E-01	5.953E-05	3 639E-01
Oxides of Nitrogen (NOx)	8.43E+01	ΑΝ	8.28E-05	2.15E-02	3.755E-02	3.072E-06	1.878F-02
Sulfur Dioxide (SO2)	2.62E-01	NA	QN	QN	QN	QN	CN
Acid Gases				The state of the s	art from the south and the second of the	* 24 4	2
Hydrogen Fluoride	2.20E-01	2.50E-01	QN	ND	ND	CN	CN
Hydrogen Chloride	2.15E-01	2.50E-01	Q	QN	QN	CZ	
Hydrogen Bromide	2.10E-01	2.40E-01	QN	QN	QN	S S	
Nitric Acid	4.00E-01	2.40E-01	5.85E-07	1.52E-04	2.655E-04	2 171E-08	1 327E 04
Phosphoric Acid	2.15E-01	2.40E-01	QN	QN	CN	ON THE	1.327E-04
Sulfuric Acid	2.15E-01	2.50E-01	QN	Q	QN	2 2	2 2
Cyanide				1.31.2		GV.	2
Particulate Cyanide	1.20E-02	1.20E-02	QN	QN	CN	OIN	
Hydrogen Cyanide	2.39E+01	1.30E-02	2.66E-05	6.89E-03	1.205E-02	9 REOF-07	R 027E 02
Particulates						10-70000	0.027 E-U3
Total Suspended Particulate	3.50E+01	NA	3.90E-05	1.01E-02	1.768E-02	1.446E-06	8 842E-03
Particulate Matter <10 microns	3.59E+01	NA	4.00E-05	1.04E-02	1.813E-02	1.483E-06	9.063F-03
Particulate Matter <2.5 microns	2.48E+01	NA	2.76E-05	7.14E-03	1.250E-02	1.023E-06	6.251E-03
Metals		7			The second secon		
Aluminum	2.12E-01	8.95E-02	1.48E-07	3.83E-05	6.698E-05	5.479E-09	3.349F-05
Antimony	1.78E+00	2.37E-01	1.74E-06	4.51E-04	7.889E-04	6.453E-08	3.945F-04
Arsenic	1.36E-02	1.41E-02	QN	QN	ND	QN	CN
Barium	1.06E+00	5.65E-02	1.17E-06	3.03E-04	5.306E-04	4.340E-08	2 653E-04
Beryllium	5.45E-02	5.65E-02	QN	QN	QN	QN	ND
Cadmium	5.45E-02	5.65E-02	QN	QN	QN	QN	2 2
Calcium	4.54E-01	7.26E-02	4.33E-07	1.12E-04	1.965E-04	1.607F-08	9 823E.05
)	0.0401.00

	Cartific	artidge, 5.56-mm Ball, M855 (M16A2)	355 (M16A2)		No lof rounds (I), a		round
		Se paisars telling on tellis tested =>	ms lested =>	.15	15 release duration (t):		2 seconds
55			- ('Sall) - AA	3.86E-03	3:86E-03 Unit Concentration (UC):		.1.636E-04 g/m³/(g/s)
		ATC Firing Test Results					
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Fmission
	Actual	Background	Emission	Emission	EMITED		Rafe
Compound		Concentration	Factor (EF)	Factor	drams///am	(m/smg/m3)	
	(mg/m²)	(mg/m³)	(lb/item)	(Ib/IB NEW)		CONC	(g/iterm/sec
Chromium	5.45E-02	5.65E-02	QN	CN	ON		
Cobalt	5.45E-02	5.65E-02	QN	S		2 2	Q
Copper	1.43E+01	7.51E-02	1.58E-05	4 10F-03	7 178E-03	ND 4020 5	ON C
Lead	4.54E+00	5.65E-02	5.04F-06	1 31E-03	2 286E 03	3.872E-07	3.589E-03
Magnesium	5.45E-02	5.65E-02	CN	S I N	Z.Z.C.SE-C.S	1.809E-U/	1.143E-03
Manganese	5.45E-02	5.65E-02	CN	S		2 4	ON S
Nickel	5.45E-02	5.65E-02	S	S		2 2	ON!
Selenium	1.36E-02	1.41E-02	2	S	Q. Z	Q .	Q !
Silver	5.45E-02	5.65E-02	S	CN		2 2	a i
Thallium	5.45E-02	5.65E-02	S	S		2	ON!
Vanadium	5.45E-02	5.65E-02	CN	C Z		2 2	QN .
Zinc	1.86E+00	5.65F-02	2 07E-08	5 38E 04	0.4105.04	ON COL	Q.
TO-11 Carbonylis			20 7 10:2		9.4 I UE-04	7.697E-08	4.705E-04
Formaldehyde	6.76E-02	1.23E-01	7 54F-08	1 95E_05	2.4495.05	2001.00	
Acetaldehyde	1.80E-01	1.80E-01	CN	NO CN	S-10E-03	Z./ 30E-09	1.709E-05
Acetone	1.19E+00	1.19E+00	Q	QN		S S	2
Acrolein	2.29E-02	2.29E-01	2.56E-08	6.62E-06	1.159F-05	O ARDE 10	ND F 706F 00
Proprionaldehyde	2.37E-01	2.37E-01	2	QN	QN	ND	3.7 30E-U0
Crotonaldehyde	1.15E-01	1.43E-01	QN	S	QN	QV	S
Butyraldenyde	2.95E-01	2.95E-01	ND	QN	QN	QN	CN
Benzaldehyde	4.34E-01	4.34E-01	ND	QN	QN	QN	S
Isovaleraldenyde	3.52E-01	3.52E-01	ND	QN	QN	QN	S
valeraldenyde	3.52E-01	3.52E-01	QN	QN	QN	Q	S
o,m,p-1olualdenyde	4.91E-01	4.91E-01	ND	QN	QN	QN	S
nexaldenyde	4.10E-01	4.10E-01	QN	ON	QN	2	S
Z,3-Ulmetnylbenzaldenyde	4.10E-01	4.10E-01	2	QN	QN	QN	2
Propere	7.047.00		100				では、 ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・
- Iobelle	/.31E-UZ	1.72E-03	8.16E-08	2.12E-05	3.703E-05	3.029E-09	1 852F-05

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

Netage	Net	Number of items tested =>			reidasse duration (t) - 🚓 💲	spiloses 7	spuggas
9	AT	A Neinhi - N E		And the second distance of the second		The same of the last of the la	
Q.	*			3.86E:03 7		//1,636E-04 g/m²/(ĝ/s)	g/m³/(ĝ/s)
0	age	C Firing Test Results!					
υ ο	X	Daily	Average	Average	Total Mass	Substance	Substance
υ	urea	Measured	Adjusted	Adjusted Efficient	or Substance.	Concentration	Emission D46
Q.	frotion	Choseffraildh					nale Venitalis
0	m ³)	(mg/m ³)	(lb/item)	(lb/lb/NEW)	Gidilalia	CONC	ER,
	E-03	2.97E-03	Q.	Q	QN	QN	QN
nethane nethane ne	E-03	3.54E-03	QN	QN	ND	QN	QN
nethane nethane nethane	€-03	6.99E-03	QN	ND	ND	QN	QN
nethane nethane ne	5-03	2.07E-03	1.42E-09	3.67E-07	6.428E-07	5.258E-11	3.214E-07
nethane nethane nethane	€-03	2.56E-03	QN	ΩN	ND	QN	QN
nethane nethane ne	=-02	2.21E-03	1.61E-08	4.17E-06	7.296E-06	5.969E-10	3.648E-06
	5-03	3.88E-03	QN	ND	ON	QN	QN
	5-03	2.64E-03	QN	ON	QN	QN	QN
flouromethane forethene	5-03	4.21E-03	QN	QN	QN	QN	QN
orethene 3	5-03	1.69E-03	QN	QN	QN	QN	QN
lorethene 13	5-03	2.95E-03	QN	QN	QN	QN	QN
rethene	5-03	2.29E-03	QN	ND	ND	QN	QN
	E-03	4.05E-03	QN	ND	ND	QN	QN
	E-03	7.68E-03	QN	QN	ND	QN	QN
The state of the s	E-02	1.90E-02	2.49E-08	6.44E-06	1.128E-05	9.226E-10	5.639E-06
Methyl Iodide 5.81E-03	E-03	5.81E-03	QN	QN	QN	DN	QN
Carbon Disulfide 3.11E-03	E-0 3	3.11E-03	QN	QN	ON	ND	QN
Acetonitrile 5.71E-01	E-01	1.34E-02	6.25E-07	1.62E-04	2.833E-04	2.318E-08	1.417E-04
3-Chloropropene 3.13E-03	E-03	3.13E-03	QN	Q	Q	ND	QN
Methylene Chloride 1.91E-01	E-01	1.39E-02	1.98E-07	5.14E-05	8.988E-05	7.352E-09	4.494E-05
tert-Butyl Alcohol 3.03E-03	E-03	3.03E-03	QN	QN	ND	ND	QN
Acrylonitrile 4.45E-02	E-02	2.17E-03	4.97E-08	1.29E-05	2.254E-05	1.844E-09	1.127E-05
trans-1,2-Dichloroethene 3.96E-03	E-03	3.96E-03	QN	QN	QN	QN	Q
Methyl t-Butyl Ether 3.61E-03	E-03	3.61E-03	QN	QN	ON	QN	Q
Hexane 1.46E-01	E-01	2.47E-02	1.40E-07	3.62E-05	6.337E-05	5.184E-09	3.169E-05
1,1-Dichloroethane 3.97E-03	E-03	3.97E-03	QN	ΩN	ND	ON	QN
	E-03	3.52E-03	QN	QN	QN	QN	QN
cis-1,2-Dichloroethene 3.96E-03	E-03	3.96E-03	QN	QN	QN	QN	QN

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

		Wilmhahof Itams tastad =	Nimbat of Items tested =>		Text Fire State String Control of the String		The state of the s
		Explosive Welght = N E W (lbs.) =>	EW That	2.8EE.02	3 86E nos l'elease digital (Communication)	HEARSELA	seconds
	AT	C Firing Test Results		3		(8/8)/ (8/8) (8/8)	(3/8) (3/8)
		Alleum	Avorano	Assessed			
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Substance
	Actual	Background	Emission	Emission	payling		Rate
Compound	ပ	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m³)	(d/item)/sec
	(mg/m³)	(frig/m³)	(lb/item)	(Ib/Ib NEW)		CONC	ER,
2-Butanone	2.95E-03	2.95E-03	QN	QN	ND	ON	QN
Ethyl Acetate	1.62E-02	3.60E-03	1.81E-08	4.68E-06	8.191E-06	6.700E-10	4.095E-06
Methyl Acrylate	3.52E-03	3.52E-03	QN	S	QN	QN	9
Chloroform	4.88E-03	4.88E-03	QN	Q.	QN	Q	QN
1,1,1-Trichloroethane	2.46E-03	1.09E-03	1.69E-09	4.38E-07	7.673E-07	6.277E-11	3.837E-07
Carbon Tetrachloride	6.29E-03	6.29E-03	QN	QN	QN	QN	QN
1,2-Dichlorethane	1.21E-02	4.05E-03	1.36E-08	3.51E-06	6.150E-06	5.030E-10	3.075E-06
Benzene	6.23E-01	1.60E-03	6.94E-07	1.80E-04	3.146E-04	2.574E-08	1.573E-04
Isooctane	4.67E-03	4.67E-03	QN	QN	QN	QN	ND
Heptane	4.10E-03	4.10E-03	QN	Q	QN	QV	QN
Trichloroethane	4.88E-03	4.88E-03	QN	QN	QN	QN	Q.
Ethyl Acrylate	4.09E-03	4.09E-03	QN	QN	QN	QV	QN
1,2-Dichloropropane	4.62E-03	4.62E-03	QN	QN	QN	QN	QN
Methyl Methacrylate	4.09E-03	4.09E-03	QN	QN	QN	QN	QN
Dibromomethane	7.11E-03	7.11E-03	Q	ND	ON	Q	QN
1,4-Dioxane	3.60E-03	3.60E-03	QV	ON	QN	QV	QN
Bromodichloromethane	6.70E-03	6.70E-03	9	QN	ON	QN	QN
4-Methyl-2-Pentanone	4.10E-03	4.10E-03		ON	QN	QN	QN
Toluene	3.02E-02	3.77E-03	3.37E-08	8.72E-06	1.527E-05	1.249E-09	7.635E-06
Octane	4.67E-03	4.67E-03	2	ND	QN	QV	QN
trans-1,3-Dichloropropene	4.54E-03	4.54E-03	2	ND	QN	QN	Q.
Ethyl Methacrylate	4.67E-03	4.67E-03	QN	ND	QN	Q	QN
1,1,2-Trichloroethane	5.46E-03	5.46E-03	QN	QN	QN	QN	QN
Tertrachloroethene	6.78E-03	6.78E-03	QN	ND	QN	QN	QN
2-Hexanone	4.10E-03	4.10E-03	QN	ON	QN	Q	QN
Dibromochloromethane	8.52E-03	8.52E-03	Q	QN	QN	QN	Q
1,2-Dibromoethane	7.68E-03	7.68E-03	2	QN	QN	QN	Q
Chlorobenzene	4.60E-03	4.60E-03	Q.	ND	QN	Q	QN

M855data100m.xls

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

	Net Ex	Explosive Weight-N.E.W. (lbs.) =>	≥= ((89)) =×	#13,88E:03	SIBBE 03 Unit Concentration (UC): 1-11638E:04 (I/m3/Id/s)	*- 1.638E-04 (4/m ³ /(4/s)	(\$/p)/ _c \/p
The second secon	ATC	C Firing Test Results1					2
	34	Dailyr	TO	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjűstéd	Adjusted	of Substance	*Concertifation	Emission
	Actual	Background	Emission	Emission	Emilled		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	i (grams/liem)	(grams/m ²)	*(g/item)/sec
	(mg/m³)	. (ເຫ້ອູ/ຫາ້)	, (Ib/ifem)	(Ib/Ib NEW)		CONC	ER.
1,1,1,2-Tetrachloroethane	6.87E-03	6.87E-03	QN	QN	ON	QN	QN
Ethylbenzene	2.82E-03	4.34E-03	3.17E-09	8.21E-07	1.438E-06	1.176E-10	7.188E-07
m/p-Xylene	6.30E-03	4.34E-03	7.10E-09	1.84E-06	3.218E-06	2.633E-10	1.609E-06
o-Xylene	3.47E-03	4.34E-03	3.90E-09	1.01E-06	1.770E-06	1.448E-10	8.851E-07
Styrene	8.52E-03	4.26E-03	9.51E-09	2.47E-06	4.315E-06	3.530E-10	2.158E-06
Bromoform	1.03E-02	1.03E-02	ND	QN	QN	QN	QN
Cumene	4.92E-03	4.92E-03	QN	QN	QN	QN	Q
1,1,2,2-Tetrachlorethane	6.87E-03	6.87E-03	QN	QN	QN	QN	QN
1,2,3-Trichloropropane	6.03E-03	6.03E-03	QN	QN	QN	QN	Q
Bromobenzene	6.42E-03	6.42E-03	QN	QN	QN	QN	QN
4-Ethyltoluene	1.47E-03	4.92E-03	1.65E-09	4.27E-07	7.469E-07	6.110E-11	3.734E-07
1,3,5-Trimethylbenzene	9.83E-04	4.92E-03	1.12E-09	2.91E-07	5.101E-07	4.173E-11	2.551E-07
Alpha Methyl Styrene	4.83E-03	4.83E-03	Q	QN	QN	Q	QN
1,2,4-Trimethylbenzene	2.95E-03	4.92E-03	3.31E-09	8.57E-07	1.500E-06	1.227E-10	7.500E-07
1,3-Dichlorobenzene	6.01E-03	6.01E-03	QN	QN	QN	QN	QN
1,4-Dichlorobenzene	6.01E-03	6.01E-03	2	QN	QN	Q.	QN
Benzyl Chloride	5.18E-03	5.18E-03	Q	QN	ND	QN	QN
1,2-Dichlorobenzene	6.01E-03	6.01E-03	Q	Q	QN	QN	Q
Hexachlorethane	9.68E-03	9.68E-03	Q	QN	ND	QN	QN
1,2,4-Trichlorobenzene	7.42E-03	7.42E-03	Q	QN	QN	QN	Q
Hexachlorobutadiene	1.07E-02	1.07E-02	QN	ND	QN	QN	Q
VOC Tentatively Identified Compounds (TICs)	pounds (TICs)						
Hydrocarbons	Harry Comments			7237			
Methane	1.05E+01	1.36E+00	1.04E-05		4.697E-03	3.842E-07	2.348E-03
Ethylene	6.94E-01	2.29E-02	7.71E-07	2.00E-04	3.497E-04	2.861E-08	1.749E-04
Acetylene	9.43E-02	2.13E-02	1.05E-07	2.72E-05	4.755E-05	3.890E-09	2.378E-05
Ethane	3.81E-01	2.46E-02	4.23E-07	1.10E-04	1.920E-04	1.570E-08	9.598E-05
Propylene	1.39E-01	3.44E-02	1.53E-07	3.97E-05	6.953E-05	5.687E-09	3.476E-05

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

		Number of items tested =:	Number of items tested =>	15	115 release duration (t):	*	2 seconds
	Net Ex	Explosive Weight - N.E.W. (lbs.) =>	:.W (lbs.) =>	3.86E-03	3.86E-03 Unit Concentration (UC)	-31.636E	(s/b)/ _c m/b
	ATC	C Firing Test Results					
		Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Sübstance.	Concentration	Emission
	Actual	Background	Emission	Emission	Emitted		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m³)	(q/item)/sec
	(mg/m³)	(mg/m³)	(lb/item)	(Ib/lb/NEW)		CONC	開
Propane	3.61E-02	3.61E-02	Q.	QN	ND	ND	QN
Propyne	3.20E-02	3.20E-02	QN	QN	QN	QN	QN
Isobutane	4.75E-02	4.75E-02	QN	QN	QN	QN	QN
1-Butene/Isobutylene	8.26E-02	4.59E-02	9.03E-08	2.34E-05	4.096E-05	3.351E-09	2.048E-05
1,3-Butadiene/butane	6.88E-02	6.88E-02	QN	QN	QN	QN	QN
cis-butene	4.59E-02	4.59E-02	ND	QN	QN	Q	QN
1-Butyne	4.59E-02	4.59E-02	QN	QN	QN	QN	QN
trans-Butene	4.59E-02	4.59E-02	QN	QN	QN	QN	QN
2-Butyne	4.42E-02	4.42E-02	ΩN	QN	QN	QN	QN
n-Pentane	5.90E-02	5.90E-02	QN	QN	QN	QN	QN
n-Hexane	1.22E-01	7.05E-02	1.36E-07	3.51E-05	6.152E-05	5.032E-09	3.076E-05
<u>SVOCs</u>							
N-nitrosodimethylamine	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Bis(2-chloroethyl)ether	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Phenol	1.79E-02	1.83E-02	QN	QV	QN	QN	QV
2-chlorophenol	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
1,3-dichlorobenzene	1.79E-02	1.83E-02	Q	QN	QN	QN	Q
1,4-dichlorobenzene	1.79E-02	1.83E-02	9	QN	QN	QN	Q
1,2-dichlorobenzene	1.79E-02	1.83E-02	Q	ND	ON	QN	Q
Benzyl alcohol	1.79E-02	1.83E-02	2	QN	QN	QN	QN
Bis(2-chloroisopropyl)ether	1.79E-02	1.83E-02	Q	ND	ON	QN	QN
2-methylphenol	1.79E-02	1.83E-02	Q	ND	ON	Q	Q
Hexachloroethane	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
N-nitroso-di-n-propylamine	1.79E-02	1.83E-02	QN	QN	ON	QN	QN
4-methylphenol	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Nitrobenzene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Isophorone	1.79E-02	1.83E-02	Q	ND	ON	QN	QN
2-nitrophenol	1.79E-02	1.83E-02	2	2	CN	Ç	CN

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

	Net	Number of items tested => Explosive Weight - N.E.W. ((bs.) = 4	ms testad => .W. (lbs.) =\$	3186E103%	#3186E103* Unit Concentration (I):	2 seconds	spicopas d/m³/(a/s)
	AT.	C Firing Test Results					
	Average	Dally	2000	Average	Total Mass.	Substance	Substance
	Measured	Measuled	Finited	Finistion	OI SUBSIBLICE	- Concentration	Emission
Compound	O	Concentration	Factor (EF)	Factor	(orams/lem)	(drams/m³)	rale (o/tem)/sec
		(mg/m³)	(lb/item)	(lb/lb NEW)		CONC	ER.
2,4-dimethylphenol	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Bis(2-chloroethoxy)methane	1.79E-02	1.83E-02	S	2	QN	QN	2
2,4-dichlorophenol	1.79E-02	1.83E-02	QN	QN	Q	QN	QN
1,2,4-trichlorobenzene	1.79E-02	1.83E-02	QN	QN	2	Q	QN
Naphthalene	9.20E-03	1.83E-02	1.03E-08	2.66E-06	4.656E-06	3.809E-10	2.328E-06
4-chloroaniline	1.79E-02	1.83E-02	ND	ND	QN	S	Q
Hexachlorobutadiene	1.79E-02	1.83E-02	QN	QN	QN	Q	Q
4-chloro-3-methylphenol	1.79E-02	1.83E-02	QN	ND	QN	S	QN
2-methylnaphthalene	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
Hexachlorocyclopentadiene	1.79E-02	1.83E-02	QN	QN	QN	2	QN
2,4,6-trichlorophenol	1.79E-02	1.83E-02	ND	QN	QN	Q	Q
2,4,5-trichlorophenol	1.79E-02	1.83E-02	ND	QN	QN	QN	Q
2-chloronaphthalene	1.79E-02	1.83E-02	ND	QN	QN	QN	Q
2-nitroaniline	1.79E-02	1.83E-02	ND	ND	QN	Q	Q
Acenaphthylene	1.79E-02	1.83E-02	ND	ON	QN	QV	Q
Dimethylphthalate	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
2,6-dinitrotoluene	1.79E-02	1.83E-02	Q	ND	ND	QN	QN
Acenaphthene	1.79E-02	1.83E-02	Q	ND	ON	QN	QN
3-nitroaniline	3.57E-02	3.66E-02	Q	ND	ND	QN	QN
2,4-dinitrophenol	3.57E-02	3.66E-02	Q.	ND	ND	QN	QN
Dibenzofuran	1.79E-02	1.83E-02	QN O	ND	ND	QN	Q
2,4-dinitrotoluene	1.79E-02	1.83E-02	ND	ND	QN	QV	QN
4-nitrophenol	3.57E-02	3.66E-02	ND	ON	QN	Q	QN
Fluorene	1.79E-02	1.83E-02	ND	ND	QN	Q	QN
4-chlorophenyl-phenylether	1.79E-02	1.83E-02	Q	ND	ND	QN	QV
Diethylphthalate	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
4-nitroaniline	3.57E-02	3.66E-02	QN	ND	ND	QN	QN
4,6-dinitro-2-methylphenol	3.57E-02	3.66E-02	ΩN	ND	QN	QN	QN

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

Compound Compound N-nitrosodiphenylamine(1) 4-bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Oi-n-butylohthalate	Average Measured Actual Concentration (mg/m²) 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02	Explosive Weight = N.E.W. (lbs.) = S C Firing Test Results Dally Average Measured Adjusted Background Emission Concentration Factor (EF) (mg/m ³). (lb/tem) 1.83E-02 ND 1.83E-02 ND 3.66E-02 ND 1.83E-02 ND 1.83E-02 ND 1.83E-02 ND 1.83E-02 ND 1.83E-02 ND	Ms.tested => W. (lbs.) => Average Adjusted Emission Factor (EF)	3.86E:03	*: (115***) release duration (t):		2 seconds 1.636E:04 g/m³/(g/s)
Compound Compound Inyl-phenylether Denzene phenol ne		Tiring Test Results Daily Measured Background Concentration (mg/m) 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02	W. ((bs.)=> Average Adjüsted Emission Factor (EF)	3.86E:03	Unit Cohcentration (UC);		g/m³/(g/s)
Compound Compound Thenylamine(1) Inyl-phenylether Denzene phenol ne		Tiring Test Results Dally Measured Background Concentration (mg/m ³). 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02 1.83E-02	Company of the Compan		のないのであるというというでは、これでは、日本ののでは、日本のでは		2. 花枝毛花之
Compound henylamine(1) inyl-phenylether phenol ne	Average Measured Actual Concentration (mg/m³) 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02	Dailly Measured Background Concentration 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02	Average Adjusted Emission Factor (EF)	The state of the s		The state of the s	
Compound henylamine(1) inyl-phenylether phenol ne	Measured Actual Concertiration. (mg/m³) 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02	Measured Background Concentration (mg/m²), 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02 1.83E-02	Adjústed Emission Factor (EF)	Average	Total Mass	A. V. P. 174	Substance
Compound Interpolation	Actual Concentration (mg/m³) 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02 1.79E-02	Background Concerntation (mg/m ³). 1.83E-02 1.83E-02 3.66E-02 1.83E-02	Emission Factor (EF)	Adjusted	of Substance	Concentration	350
Compound Compound Thenylamine(1) Inyl-phenylether Denzene phenol ne	Concertifation (mg/m³) 1.79E-02 1.79E-02 1.79E-02 3.57E-02 1.79E-02 1.79E-02	Concentration (mg/m²); 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02	Factor (EF)	Emission			
N-nitrosodiphenylamine(1) 4-bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene	(mg/m³) 1.79E-02 1.79E-02 1.79E-02 3.57E-02 1.79E-02 1.79E-02	(mg/m ³), 1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02		Factor	(grams/lem)	(orams/m ³)	
N-nitrosodiphenylamine(1) 4-bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene	1.79E-02 1.79E-02 1.79E-02 3.57E-02 1.79E-02 1.79E-02	1.83E-02 1.83E-02 1.83E-02 3.66E-02 1.83E-02	(lb/item)	(16/16 NEW)		CONC	ER.
4-bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene	1.79E-02 1.79E-02 3.57E-02 1.79E-02 1.79E-02	1.83E-02 1.83E-02 3.66E-02 1.83E-02	9	QN	CN	CN	
Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene	1.79E-02 3.57E-02 1.79E-02 1.79E-02	1.83E-02 3.66E-02 1.83E-02 1.83E-02	2	Q		2 2	2 2
Pentachlorophenol Phenanthrene Anthracene Di-n-but/Inhthalate	3.57E-02 1.79E-02 1.79E-02 1.05E-02	3.66E-02 1.83E-02 1.83E-02	QN	QN	Q	S	
Phenanthrene Anthracene Oi-n-butvinhthalate	1.79E-02 1.79E-02 1.05E-02	1.83E-02	QV	Q	Q	CN	
Anthracene Di-n-butviphthalate	1.79E-02 1.05F-02	1.83E-02	QN	QN	QN	CN	
Di-n-butylphthalate	1 05F-02	1	QN	QN	QN	CN	2 2
and the second second	10000	1.83E-02	1.15E-08	2.97E-06	5.205E-06	4 257E-10	2 ROJE 08
Fluoranthene	1.79E-02	1.83E-02	QN	QN	QN	CN	AID NID
Pyrene	1.79E-02	1.83E-02	QN	QN	QN	S	
Butylbenzylphthalate	1.79E-02	1.83E-02	Q	QN	QN	S	2 2
Benzo(a)anthracene	1.79E-02	1.83E-02	QN	QN.	QN	GN	S S
Chrysene	1.79E-02	1.83E-02	Q	S.	QN	GN	S
3,3-dichlorobenzidine	1.79E-02	1.83E-02	Q	QN	QN	GN	S
Bis(2-ethylhexyl)phthalate	3.93E-02	5.68E-02	QN	QN	QN	QN	S
Ur-n-octylphthalate	1.79E-02	1.83E-02	QN	ΩN	QN	QN	S
Benzo(b)fluoranthene	1.79E-02	1.83E-02	QN	Q	QN	QN.	S
Benzo(k)fluoranthene	1.79E-02	1.83E-02	QN	QN	QN	QN	GN
Benzo(a)pyrene	1.79E-02	1.83E-02	QN	QN	ND	QN	QN
Indeno(1,2,3-cd)pyrene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Diberiz(a,r)ammacene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Benzo(g,n,ı)perylene	1.79E-02	1.83E-02	QN	QN	QN	QN	CN
SVOC Tentatively Identified Compounds (TICs)	nds (TICs)						
10-13 (PAHS)							100 miles
Naphthalene	8.84E-03	1.15E-03	8.73E-09	2.26E-06	3.961E-06	3 240F-10	1 980E.06
Acenaphthylene	3.39E-04	1.83E-05	3.79E-10	9.82E-08	1.719E-07	1.406F-11	8 595E-08
Acenaphthene	6.61E-05	1.83E-05	7.38E-11	1.91E-08	3.345E-08	2.736E-12	1 673E-08
Fluorene	1.88E-04	1.83E-05	2.10E-10	5.43E-08	9.511E-08	7.780E-12	4.755F-08
Phenanthrene	2.95E-04	4.21E-05	2.88E-10	7.46E-08	1.306E-07	1 069E-11	6 531E 09

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

	Cartrid	idge, 5.56-mm;Ball, M855 (M16A2)	355 (M16A2)		No. of rounds (I)	punou lx 1	round
		Number of items tested =>	ms tested =>	1. P. 11211. A. 11	Washington (U) - Washington (U) - Washington (U)	2 seconds	seconds
	Net	plósive Welght - N.E	.W. (lbs.) =>	\$3.86E:03	386E:03 Unit concentration (UC)	1.636E:04 g/m³/(g/s	g/m³/(g/s)
	ATC	C Firing Test Results					****
	Average	Daily	1800	- Average.		Substance	Substance
		Méasured	Adjusted	Adjusted.	of Substance	Concentration.	Emission
	Actuals	Background	Emission	Emission	Finited T		Râte
Compound	Concentration	Concentration	Factor (EF)	Facior	(grams//tem)	(grams/m3)	(q/item)/sec
	. (mg/m³)	(mg/m³):	(lb//tem)	(IB/IB NEW)		CONC	EŘ
Anthracene		1.83E-05	5.25E-11	1.36E-08	2.383E-08	1.949E-12	1.191E-08
Fluoranthene	4.02E-04	1.83E-05	4.47E-10	1.16E-07	2.028E-07	1.659E-11	1.014E-07
Pyrene	1.02E-03	1.83E-05	1.13E-09	2.93E-07	5.132E-07	4.198E-11	2.566E-07
Benzo(a)anthracene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	9.242E-12	5.649E-08
Chrysene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	9.242E-12	5.649E-08
Benzo(b)fluoranthene	3.13E-04	1.83E-05	3.49E-10	9.05E-08	1.584E-07	1.296E-11	7.922E-08
Benzo(k)fluoranthene	1.55E-04	1.83E-05	1.73E-10	4.48E-08	7.836E-08	6.410E-12	3.918E-08
Benzo(e)pyrene	4.38E-04	1.83E-05	4.87E-10	1.26E-07	2.211E-07	1.809E-11	1.105E-07
Benzo(a)pyrene	3.93E-04	1.83E-05	4.39E-10	1.14E-07	1.993E-07	1.630E-11	9.963E-08
Indeno(1,2,3-cd)pyrene	4.64E-04	1.83E-05	5.19E-10	1.34E-07	2.352E-07	1.924E-11	1.176E-07
Dibenz(a,h)anthracene	4.02E-05	1.83E-05	4.49E-11	1.16E-08	2.037E-08	1.666E-12	1.018E-08
Benzo(g,h,i)perylene	1.09E-03	1.83E-05	1.21E-09	3.14E-07	5.503E-07	4.502E-11	2.752E-07
Dioxins and Furans							
2378-TCDD	5.26E-09	5.29E-09	ND	QN	QN	Q.	QN
12378-PECDD	3.56E-09	3.52E-09	ND	QN	QN	Q	QN
123478-HXCDD	2.35E-09	2.45E-09	QN	QN	ND	QN	QN
123678-HXCDD	2.44E-09	2.64E-09	9	QN	ND	Q	QN
123789-HXCDD	7.70E-09	8.17E-09	QN	QN	QN	QN	QN
1234678-HPCDD	5.15E-09	6.59E-09	Q	Q	ND	QN	QN
0000	7.93E-08	1.14E-07	Q	Q	ND	QN	QN
2378-TCDF	3.94E-09	3.60E-09	Q	QN	ND	QN	Q
12378-PECDF	5.11E-09	5.21E-09	2	QN	ND	Q	Q
23478-PECDF	4.17E-09	3.87E-09	Q	QN	ND	2	Q
123478-HXCDF	2.72E-09	2.96E-09	Q	QN	QN	Q	QN
123678-HXCDF	2.79E-09	3.09E-09	ΩN	QN	QN	Q	QN
123789-HXCDF	2.77E-09	3.06E-09	Q	Q	QN	QN	QN
234678-HXCDF	1.41E-09	1.60E-09	Q	QN	ND	QN	Q
1234678-HPCDF	1.45E-09	2.00E-09	Q	Q	ND	Q	Q

Table B-2: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 100 meter location

Average Average Average Average Actual	Net Explosive Weight - N.E.W. (lbs.) => ATC Firing Test Results ATC Firing Test Results ed Measured Adjusted ed Measured Adjusted Emission Sy (mg/m²) (lb/flem) 1.16E-09 ND 3.30E-09 8.50E-16 3.30E-09 8.50E-16 3.30E-09 ND 3.30E-09 ND		3.86E:03:	15 release duration (t):	: 2 seconds	seconds g/m³/(g/s)
A Average A State A St			3.86E±03=	THE PARTY AND A STATE OF THE PARTY OF THE PA	こうできる かんかんかんかん かんしょう	g/m³/(g/s)
Ŏ		Average Adjusted	が、大いいのであると	ome of icentifiation (ດວ) ເສ	1:636E-04 g/m²/(g/s)	
		Average Adjusted				The state of the s
		Adjusted	Average.	Total Mass	Substance	Substance
			Adjusted:	of Substance	Concentration	Emission
		Emission	Emission	Emitted		Rafe
		Factor (EF)	Factor	(drams//tem)	(drams/m ²)	"In/Item)/eac
		(Ib/ritem)	(Ib/ib New)		CONC	ER,
		Q	QN	QN	CN	CN
		8.50E-16	2.20E-13	3.857E-13	3 155F-17	1 928E-13
						0
		QN	QN	QN	CN	CN
		Q.	QN	QN	S	2 2
		QN	QN	CN	S	2 2
	33 NA	QN.	2	CZ	2 2	
)3 NA	QN	QN	QN	S	
)3 NA	QN	2	QN	S	2 2
	3 NA ·	9	QN	QN	S	2
	33 NA	Q.	9	QN	QX	S
	13 NA	Q	QV	QN	QV	S
		QN	2	QN	2	QN
		ON	QN	QN	2	QN
		QN	QN	QN	Q	QN
no-4,6-Dinitrotoluene		QN	QN	QN	Q	ND
		QN	QN	QN	QN	QN
		QN	QN	QN	Q	QN
ranitrate		ND	QN	QN	QN	QN
		ND	Q	QN	Q	QN
e)		ND O	QN	Q	QN	QN
Diphenylamine 8.70E-02	2 NA	QN	QN	QN	2	CN

Footnotes:

'ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study)

NA = Not Applicable

ND = Not Detected

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Carte Net Ex	artridge, 5.56-mm Balli-M855 (M/1841) 1.70	M855 (M16A ms (ested ≜> (W) (lbs) ≅	3.86E-03	Nevofrounds(I) to the second of the second o	######################################	round) seconds g/m²/(g/s)
	ATC	C Firing Test Results					
	Average Measured	.Dally.⊩ Measured	Average Adjustěd	Average Adiusted	Total Mass	-Súbstance Concentration	Substance
		Background	Emission	Emission	Effilied 51 (*)	(grāms/m³)	Rafe
Compound	ٽ.	Concentration	Factor (EF)	Factor	grams/m)		(g/item)/sec
	(mg/m ²)	(mg/m²)	* (lb/ltem)	(ID/ID:NEW)		CONC	ER
Permanent Gases					The state of the s		The state of the s
Ammonia (NH3)	1.75E+01	NA	2.84E-05	7.36E-03	1.288E-02	1.770E-07	2.576E-03
Carbon Dioxide (CO2)	4.85E+02	AN	7.87E-04	2.04E-01	3.570E-01	4.905E-06	7.140E-02
Carbon Monoxide (CO)	8.90E+02	NA	1.44E-03	3.74E-01	6.550E-01	9.000E-06	1.310E-01
Oxides of Nitrogen (NOx)	4.35E+01	NA	7.05E-05	1.83E-02	3.200E-02	4.397E-07	6.400E-03
Sulfur Dioxide (SO2)	2.62E-01	NA	ND	QN	ND	ND	QN
Acid Gases 1		**************************************				The State of the Sta	
Hydrogen Fluoride	2.25E-01	2.10E-01	ND	ND	QN	QN	QN
Hydrogen Chloride	2.15E-01	2.00E-01	ND	ND	QN	QN	Q
Hydrogen Bromide	2.15E-01	2.00E-01	ND	ND	QN	QN	Q
Nitric Acid	2.15E-01	2.00E-01	ND	QN	QN	QN	Q
Phosphoric Acid	2.15E-01	2.00E-01	ND	QN	QN	ND	QN
Sulfuric Acid	2.40E-01	2.00E-01	4.26E-07	1.11E-04	1.935E-04	2.658E-09	3.869E-05
Cyanide				Section 2	The second secon		THE PART OF THE PA
Particulate Cyanide	9.30E-02	1.30E-02	9.29E-08	2.41E-05	4.215E-05	5.791E-10	8.430E-06
Hydrogen Cyanide	1.04E+01	1.90E-02	1.80E-05	4.66E-03	8.160E-03	1.121E-07	1.632E-03
Particulates			4			A Company of the Party of the P	
Total Suspended Particulate	1.99E+01	AN	3.47E-05	8.99E-03		2.162E-07	3.147E-03
Particulate Matter <10 microns	2.05E+01	NA	3.57E-05	9.26E-03	1.620E-02	2.226E-07	3.240E-03
Particulate Matter <2.5 microns	1.51E+01	NA	2.64E-05	6.84E-03	1.198E-02	1.646E-07	2.396E-03
<u>Meta/s</u>			100	A Company		The Paris Const.	
Aluminum	1.29E-01	7.41E-02	1.04E-07	2.70E-05	4.727E-05	6.495E-10	9.455E-06
Antimony	7.74E-01	4.35E-02	1.35E-06	3.49E-04	6.115E-04	8.402E-09	1.223E-04
Arsenic	1.07E-02	1.09E-02	ND	ND	QN	QV	QN
Barium	2.26E-01	4.35E-02	3.94E-07	1.02E-04	1.786E-04	2.454E-09	3.571E-05
Beryllium	4.27E-02	4.35E-02	QN	Q	ND	QN	QN
Cadmium	4.27E-02	4.35E-02	Q	Q	ON	QN	QN
Calcium	3.05E-01	1.24E-01	3.31E-07	8.57E-05	1.500E-04	2.061E-09	3.000E-05

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

ATC Filting Lest Results ATC Filting Lest Results Average Compound Application Admission Admission Action Average Admission Action Action Average Admission Action Action Action Average Admission Action			artridger 5i56-mm Ball⊪ M856 (M16A1	56-mm Ball-M855 (M16A umbar of Items testad=>	(1)			(Lonudi
Compound Annersige Asserties Compound Actual Background Compound Concentration Concentration (mg/m) (mg/m) (mg/m) (mg/m) (m		Net	×plosive Weight⊢ N	(E.W. (lbs.) ≝		Unit Contradition (I)		5 secolids
Compound Average Neasured Actual (Engine) Average Neasured Actual (Img/m²) Daily. compound Actual (Img/m²) Background (Img/m²) Concentration (Img/m²) Concentration (Img/m²) um 4.27E-02 (Img/m²) 4.35E-02 4.35E-02 n 4.27E-02 (Img/m²) 4.35E-02 4.35E-02 m 4.27E-02 (Img/m²) 4.35E-02 4.35E-02 m 4.27E-02 (Img/m²) 4.35E-02 4.35E-02 ehyde 3.07E-02 (Img/m²) 4.35E-02 4.35E-02 ehyde 3.07E-02 (Img/m²) 4.35E-01 1.19E-00 aldehyde 2.2E-01 (Img/m²) 2.2E-01 2.35E-01 ehyde 2.35E-01 (Img/m²) 3.52E-01 3.52E-01 ehyde 4.34E-01 (Img/m²) 4.31E-01 4.10E-01 thyde 4.10E-01 (Img/m²) 4.10E-01 4.10E-01 thybe <th></th> <th></th> <th>Firing, Test Result</th> <th>31</th> <th></th> <th></th> <th>:: :: :: 6x87.0E-05 g/m /(g/s)</th> <th>5 g/m-/(g/s)</th>			Firing, Test Result	31			:: :: :: 6x87.0E-05 g/m /(g/s)	5 g/m-/(g/s)
Compound Measured Actual Concentration (mg/m²) Measured Actual Concentration (mg/m²) Measured Actual (mg/m²) Measured Actual (mg/m²) Measured (mg/m²) Mea		4	I STATE CALLS	L				
Compound Actual Background Concentration (mg/m²) (mg/m²) um 4.27E-02 4.35E-02 um 4.27E-02 4.35E-02 um 4.27E-02 4.35E-02 um 4.27E-02 4.35E-02 n 4.35E-02 4.35E-02 n 4.36E-01 1.36E-01 n 1.3	1000年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	Measured	Weasured	Aditieted	Average	Total Mass	Substance	Substance
Compound Concentration Concentration Concentration um 4.27E-02 4.35E-02 um 4.27E-02 4.35E-02 ium 4.27E-02 4.35E-02 ium 4.27E-02 4.35E-02 ium 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 ehyde 4.27E-02 4.35E-02 ehyde 3.07E-02 1.23E-01 ehyde 3.07E-02 1.23E-01 ehyde 3.07E-02 1.25E-01 ehyde 2.35E-01 2.35E-01 ehyde 2.35E-01 2.35E-01 ehyde 2.35E-01 3.52E-01 ehyde 4.10E-01 4.10E-01 ehyde 2.35E-01 4.10E-01 ehyde 4.10E-01		Actrial	Day Francisco	nejenny 1	- Polasted	os Substarice	Concentration	· <u>-</u>
(mg/m²) (mg/m²) (mg/m²) um 4.27E-02 4.36E-02 4.27E-02 4.36E-02 4.27E-02 4.36E-02 7.66E+00 7.46E-02 7.66E+00 7.46E-02 7.66E+00 7.46E-02 7.66E+00 4.35E-02 1 4.27E-02 4.35E-02 1 4.27E-02 4.35E-02 1 1.07E-02 4.35E-02 1 1.07E-02 4.35E-02 1 4.27E-02 4.35E-02 1 4.36E-01 1.36E-01 1 1.09E-01 1.19E+00 1 2.35E-01 1.19E+01 1 4.36E-01 2.36E-01 1 4.36E-01 3.52E-01 1 4.10E-01 4.10E-01	Collinging			EMISSION	Emission	Efriffed	(arams/m³)	
um 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 1.085e 4.35E-02 4.27E-02 4.35E-02 4.36E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-01 4.47E-01 1.19E+00 4.36E-02 4.35E-01 4.36E-03 3.52E-01 4.36E-01 4.10E-01 4.36E-01			Concentration	Factor (EF)	Factor	(grains/m ³)		(n/itam/sec
A.2/E-02 4.35E-02 4.35E-02 4.35E-02 4.37E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.27E-02 4.35E-02 4.35E-02 4.35E-02 4.35E-02 4.27E-02 4.35E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-01 4.35E-01 4.35E-01 4.35E-01 4.36E-01 4.36E-01	Chromitim	(mg/m)	(mg/m²)	(lb//tem)	(IB/IB/NEW)	24 Line 19 Lin	CONC	ER.
4.27E-02 4.35E-02 ium 4.27E-02 4.35E-02 iese 4.27E-02 4.35E-02 inm 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 n 1.07E-02 4.35E-02 n 1.07E-02 4.35E-02 n 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 ehyde 3.07E-02 1.23E-01 ehyde 3.07E-02 1.23E-01 ehyde 3.07E-02 1.23E-01 ehyde 3.07E-02 1.29E-01 ehyde 2.29E-01 2.29E-01 ehyde 2.29E-01 2.35E-01 ehyde 3.52E-01 3.52E-01 ehyde 4.34E-01 4.10E-01 ehyde 3.52E-01 4.10E-01 ehyde 4.10E-01 4.10E-01 ehyde 4.10E-01 4.10E-01 ehyde 4.10E-01 4.10E-01 ehyde </td <td>obole Oppole</td> <td>4.2/E-02</td> <td>4.35E-02</td> <td>Q</td> <td>QN</td> <td>CN</td> <td></td> <td></td>	obole Oppole	4.2/E-02	4.35E-02	Q	QN	CN		
T.66E+00 7.46E-02 2.09E+00 4.35E-02 tese 4.27E-02 4.35E-02 m 4.27E-02 4.35E-02 m 1.07E-02 4.35E-02 m 1.07E-02 4.35E-02 m 4.27E-02 4.35E-02 ehyde 3.07E-02 1.35E-02 ehyde 3.07E-02 1.35E-01 shyde 2.29E-01 1.19E+00 shyde 2.37E-01 2.37E-01 shyde 2.35E-01 3.52E-01 shyde 3.52E-01 4.10E-01 trylbenzaldehyde 4.10E-01 4.10E-01 trylbenzaldehyde 4.10E-01 4.10E-01 tybe-03 3.44E-03 8.44E-03	Coball	4.27E-02	4.35E-02	QN	S		Q.	Q
2.09E+00 4.35E-02 ilum 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 n 1.07E-02 4.35E-02 n 1.07E-02 4.35E-02 n 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 arboritis 4.27E-02 4.35E-02 ehyde 3.07E-02 4.35E-02 ehyde 3.07E-02 1.19E+00 aldehyde 3.07E-01 1.19E+00 aldehyde 2.29E-01 2.35E-01 alyde 2.35E-01 3.52E-01 alyde 3.52E-01 4.10E-01 hyde 4.10E-01 4.10E-01 trylbenzaldehyde 4.10E-01 4.10E-01 trylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03 8.44E-03	opper	7.66E+00	7.46E-02	1.32E-05	3.42E-03	בה דומה א	QN	QN
intimese 4.27E-02 4.35E-02 m 1.07E-02 4.35E-02 m 1.07E-02 1.09E-02 m 4.27E-02 4.35E-02 ehyde 3.07E-01 1.80E-01 thyde 1.19E+00 1.19E+00 2.29E-01 2.29E-01 shyde 2.87E-01 2.87E-01 shyde 3.52E-01 3.52E-01 shyde 3.52E-01 3.52E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 3.344E-03 8.8	-ead	2.09E+00	4.35E-02	3 63E-06	0 445 04	5.99ZE-03	8.233E-08	1.198E-03
1.07E-02 4.35E-02 4.35E-02 4.35E-02 4.27E-02 4.35E-02 4.27E-02 4.35E-02 4.35E-01 4.36E-01 4.36E-01	Magnesium	4.27E-02	4.35E-02	S L	9.4 IE-04	1.646E-03	2.262E-08	3.293E-04
n 4.27E-02 4.35E-02 n 1.07E-02 4.35E-02 n 4.27E-02 4.35E-02 n 4.27E-02 4.35E-02 a 4.27E-02 4.35E-02 a 4.27E-02 4.35E-02 ehyde 3.07E-02 1.23E-01 shyde 1.19E+00 1.19E+00 2.29E-01 2.29E-01 2.29E-01 shyde 2.29E-01 2.37E-01 shyde 2.35E-01 4.34E-01 shyde 3.52E-01 4.10E-01 shyde 4.10E-01 4.10E-01 thyde 4.10E-01 4.10E-01 thyde 4.10E-01 4.10E-01 thyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01	/Janganese	4.27E-02	4.35E-02	2 2	2 2	ON	QV	QN
n 1.07E-02 1.09E-02 4.27E-02 4.35E-02 m 4.27E-02 4.35E-02 m 4.27E-02 4.35E-02 arboritys	vicke!	4.27E-02	4.35E-02	2 2	2 2	QN	Q	QN
4.27E-02	selenium	1.07E-02	1.09E-02	2	2 2	QN	QN	QN
m 4.27E-02 4.35E-02 arborivis 4.27E-02 4.35E-02 ehyde 3.07E-02 4.35E-02 ehyde 3.07E-02 1.23E-01 ehyde 1.19E+00 1.19E+00 aldehyde 2.29E-01 2.29E-01 aldehyde 2.87E-01 2.37E-01 ahyde 4.34E-01 4.34E-01 ahyde 4.34E-01 4.34E-01 ahyde 4.91E-01 4.10E-01 thyde 4.91E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	ilver	4.27E-02	4.35F-02	2 2	2 2	QN	QV	QV
m 4.27E-02 4.35E-02 arboritys 9.96E-01 4.35E-02 ehyde 3.07E-02 1.23E-01 shyde 1.19E+00 1.19E+00 aldehyde 2.29E-01 2.29E-01 aldehyde 2.95E-01 2.95E-01 ahyde 2.95E-01 2.95E-01 ahyde 4.34E-01 4.34E-01 ahyde 4.34E-01 4.10E-01 thyde 4.91E-01 4.10E-01 thyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	hallium	4.27E-02	4 35F-02	2 2	2	QN	QN	QN
arboritys 9.96E-01 4.35E-02 ehyde 3.07E-02 1.23E-01 shyde 1.80E-01 1.80E-01 aldehyde 2.29E-01 2.29E-01 ahyde 2.87E-01 2.87E-01 ahyde 2.95E-01 2.95E-01 ahyde 4.34E-01 3.52E-01 ahyde 4.34E-01 4.91E-01 ahyde 4.91E-01 4.10E-01 thylee 4.10E-01 4.10E-01 thylee 4.10E-01 4.10E-01 thylee 4.99E-02 3.44E-03	'anadium	4.27E-02	4 35E 02	2 4	QN .	QN	Q	QN
ariborius 3.07E-02 1.23E-01 ehyde 1.80E-01 1.80E-01 aldehyde 2.29E-01 2.29E-01 aldehyde 2.95E-01 2.37E-01 ahyde 2.95E-01 2.87E-01 ahyde 2.95E-01 2.95E-01 ahyde 2.95E-01 4.34E-01 ahyde 3.52E-01 3.52E-01 ahyde 4.91E-01 4.10E-01 thylde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	inc	9.96F-01	4 35E 02	1 70F 60	Q.	ND	2	QN
hyde 3.07E-02 1.23E-01 hyde 1.80E-01 1.80E-01 1.19E+00 1.19E+00 2.29E-01 2.29E-01 dehyde 2.87E-01 2.87E-01 shyde 2.87E-01 2.95E-01 shyde 2.95E-01 2.95E-01 shyde 3.52E-01 3.52E-01 hyde 3.52E-01 4.91E-01 hyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01	O-11 Carbonyls		7.325-02	1.73E-06	4.49E-04	7.867E-04	1.081E-08	1.573E-04
aldehyde 1.80E-01 1.80E-01 1.80E-01 1.80E-01 1.80E-01 1.9E+00 1.19E+00 1.19E+00 2.29E-01 2.29E-01 2.29E-01 2.87E-01 2.87E-01 2.95E-01 2.95E-01 2.95E-01 3.52E-01 3.52E-01 4.10E-01 4.10E-01 4.10E-01 4.10E-01 4.10E-01 4.10E-01 8.99E-02 3.44E-03 8	ormaldehyde	3.07F-02	1 225 04	20,10,1				
aldehyde 2.29E-01 1.19E+00 1.19E+00 1.19E+00 1.19E+00 1.19E+00 1.19E+00 1.29E-01 2.29E-01 2.37E-01 2.87E-01 2.87E-01 2.95E-01 2.95E-01 2.95E-01 2.95E-01 3.52E-01 3.52E-01 3.52E-01 4.10E-01 4.10E-01 4.10E-01 4.10E-01 4.99E-02 3.44E-03	cetaldehyde	1.80E-01	1 80E 01	3.34E-08	1.38E-05	2.423E-05	3.329E-10	4.846E-06
aldehyde 5.94E-01 2.29E-01 dehyde 5.94E-03 2.37E-01 ahyde 2.87E-01 2.87E-01 ahyde 2.95E-01 2.95E-01 ahyde 4.34E-01 4.34E-01 ahyde 3.52E-01 3.52E-01 bhyde 3.52E-01 4.91E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	cetone	1 19F+00	1 10E-01	Q.	Q.	ND	QN	CN
aldehyde 5.94E-03 2.37E-01 dehyde 2.87E-01 2.87E-01 shyde 2.95E-01 2.95E-01 shyde 4.34E-01 4.34E-01 shyde 3.52E-01 3.52E-01 lualdehyde 4.91E-01 4.91E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	crolein	2.29F-01	2 20E 04	2	Q	ND	QN	CN
dehyde 2.87E-01 2.87E-01 shyde 2.95E-01 2.95E-01 shyde 3.52E-01 3.52E-01 lualdehyde 3.52E-01 3.52E-01 lualdehyde 4.91E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	roprionaldehyde	5.94E-03	2.23E-01	NO T	QN	QN	QN	QN
hyde 2.95E-01 2.95E-01 hyde 4.34E-01 2.95E-01 idehyde 3.52E-01 3.52E-01 shyde 3.52E-01 3.52E-01 iualdehyde 4.91E-01 4.91E-01 thylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03	rotonaldehyde	2.87E-01	2.37E-01	1.046-08	2.70E-06	4.718E-06	6.482E-11	9.435E-07
hyde 4.34E-01 4.34E-01 didehyde 3.52E-01 3.52E-01 3.52E-01 didehyde 3.52E-01 3.52E-01 didehyde 4.91E-01 4.10E-01 dthylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03	utyraldehyde	2.95E-01	2 95F-01	2 2	2	ND	QN	QN
lidehyde 3.52E-01 3.52E-01 shyde 3.52E-01 3.52E-01 lualdehyde 4.91E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.99E-02 3.44E-03	enzaldehyde	4.34F-01	A 34E 04	2 4	Q.	QN	Q	QN
lualdehyde 3.52E-01 3.52E-01 iualdehyde 4.91E-01 4.91E-01 4.10E-01 thylbenzaldehyde 4.19E-01 4.19E-01 4.99E-02 3.44E-03	ovaleraldehyde	3.52F-01	2 52E 04	QN S	QN .	ND	QN	QN
Iualdehyde 4.91E-01 4.91E-01 yde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03	aleraldehyde	3.52F-01	3 525 04	2	Q	QN	Q	CN
thylbenzaldehyde 4.10E-01 4.10E-01 thylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03	m,p-Tolualdehyde	4.91E-01	4 915-01	ON CA	2	ND	QN	QN
thylbenzaldehyde 4.10E-01 4.10E-01 4.99E-02 3.44E-03	exaldehyde	4.10E-01	4 10F-01	2 2	2 2	QN	QN	QN
4.99E-02 3.44E-03	5-Dimethylbenzaldehyde	4.10E-01	4.10E-01	2 2	2 2	QN	QN	QN
4.99E-02 3.44E-03	<u> </u>				ON	QN	QN	QN
00 11.	obene	4.99E-02	3 44E-03	0.175.00	10,000			
			20.11	0.175-00	4.12E-U5	3.704E-05	5.090E-10	7 409E-08

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Cart	artridge, 5.56-mm Ball, M855 (M16A1)	M855 (M16A1		No. of rounds (I)	punoj [7]	punoj
		Number of Items tested Items	ms tested =>	.20	release duration (t)	spuoses 🤄 🔭 🦠	seconds
		Explosive vveignt * N.E.VV. (lbs.) =>	// // (IDS.) #>	-3.86E-03	Unit Concentration (UC).	6/870E-05	g/m²/(g/s);
		C Firing Test Results ¹				1.4	
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Actual	Backurolind	Finiseion	Fmickion	CS CALCALLY CO.		UOISSIUU -
Compound	Concentration	Concentration	Eartor (FE)	Lingsion		(grams/m.) ⊸	Kate
	(km/gm)	(fm/g/h);	(lb/tem)	(Ib/Ib/NEW)	(Viellis)	CONC	(g/item)/sec ER,
Dichlorodiflouromethane	2.97E-03	2.97E-03	3.67E-10	9.50E-08	1.664E-07	2.286E-12	3.327E-08
Chlorodifluoromethane	3.54E-03	3.54E-03	QN	QN	QN	QN	QN
Freon 114	6.99E-03	6.99E-03	ND	QN	QN	QN	QN
Chloromethane	1.45E-03	2.07E-03	2.52E-09	6.52E-07	1.142E-06	1.569E-11	2.284E-07
Vinyl Chloride	2.56E-03	2.56E-03	QN	QN	ON	QN	QN
1,3-Butadiene	4.42E-03	2.21E-03	7.66E-09	1.98E-06	3.473E-06	4.772E-11	6.946E-07
Bromomethane	3.88E-03	3.88E-03	ND	QN	QN	QN	Q
Chloroethane	2.64E-03	2.64E-03	QN	QN	QN	QN	QN
Dichlorofluoromethane	4.21E-03	4.21E-03	QN	ND	QN	QN	QN
Trichloroflouromethane	1.12E-03	1.69E-03	QN	QN	QN	QN	QN
Pentane	2.36E-03	5.90E-03	QN	QN	QN	QN	QN
Acrolein	2.29E-03	2.29E-03	QN	QN	QN	Q	QN
1,1-Dichlorethene	4.05E-03	4.05E-03	QN	QN	QN	QN	QN
Freon 113	7.68E-03	7.68E-03	QN	QN	QN	Q	QN
Acetone	9.98E-01	5.23E-01	8.87E-07	2.30E-04	4.022E-04	5.527E-09	8.045E-05
Methyl lodide	5.81E-03	5.81E-03	Q	QN	QN	QN	QN
Carbon Disulfide	3.11E-03	3.11E-03	QN	QN	QN	ND	QN
Acetonitrile	1.17E-01	1.68E-03	2.04E-07	5.28E-05	9.236E-05	1.269E-09	1.847E-05
3-Chloropropene	3.13E-03	3.13E-03	Q	QN	ND	QN	QN
Methylene Chloride	1.27E-01	9.03E-02	7.37E-08	1.91E-05	3.344E-05	4.594E-10	6.687E-06
tert-Butyl Alcohol	3.03E-03	3.03E-03		1.35E-06	2.358E-06	3.240E-11	4.717E-07
Acrylonitrile	3.26E-02	2.17E-03	5.68E-08	1.47E-05	2.578E-05	3.542E-10	5.156E-06
trans-1,2-Dichloroethene	3.96E-03	3.96E-03	QN	QN	ND	QN	QN
Methyl t-Butyl Ether	1.08E-03	1.08E-03	1.67E-10	4.33E-08	7.585E-08	1.042E-12	1.517E-08
Hexane	6.34E-01	3.31E-01	5.65E-07	1.46E-04	2.562E-04	3.520E-09	5.123E-05
1,1-Dichloroethane	3.97E-03	3.97E-03	ΩN	QN	QN	QN	QN
Vinyl Acetate	3.52E-03	3.52E-03	Q.	QN	ND	QN	QN
cis-1,2-Dichloroethene	3.96E-03	3.96E-03	Q	Q.	QN	QN	QN

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Can	atridge, 5;56-mm Ball, M855 (M16A1)	I.M855 (M16A				Tround
	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Number of lems tested =>	20-	release duration (t):	THE PROPERTY OF THE PARTY OF TH	spropas
	20-	Victoria Wyelgill - IV	E.vv. (IDS.) =>	3.86E*03#	CAPICSMERY WEIGHT IN EVV. (IDS.))=> 3.86E:03w Uhit Concentration (UC);	6.870E-05 g/m ² /(g/s)	(s/b)/, m/b
		C Firing Test Results 1					
	Average	Daily	Average	Average	Total Mask	C. Hoton	
· · · · · · · · · · · · · · · · · · ·	Measured	Measured	Adjusted	Adjusted	os Substance	Concentration	Substance
	Actual	Background	Emission	Emission	EMINER		UOISSIII
Compound	Concentration	Concentration	Factor (EF)	Factor		(grams/m.)	Rate
	(ma/m _s)	(m/km ³)	(Ib/ferfi)	(II)/III-NEIXA			(g/item)/sec
2-Butanone	2.95E-03	2.95E-03	CN	CIN		SAPS:	
Ethyl Acetate	7.21E-03	3.60F-03	1 26E-08	2 285 06	UN Toot 1	QN	QN
Methyl Acrylate	3.52E-03	3.52F-03	2007	3.20E-00	3.708E-06	7.843E-11	1.142E-06
Chloroform	4.88E-03	4.88F-03	Ę	2 2	ON I	QN	ND
1,1,1-Trichloroethane	1.64E-03	5.46F-03	2845 00	7 295 7	ON	QN	Q
Carbon Tetrachloride	6.29E-03	6 29E-03	ND ND	/ .20E-U/	1.2/3E-06	1.750E-11	2.547E-07
1,2-Dichlorethane	8.09F-03	4 05E-03	1 445 00	ON LOOK	QN	Q.	QN
Benzene	3.51E-01	1 075 02	0.415-00	3.00E-U6	6.411E-06	8.809E-11	1.282E-06
Isooctane	4 67E 03	4 67F 00	0.11E-0/	1.58E-04	2.769E-04	3.805E-09	5.539E-05
Heptane	1 225 02	4.0/E-03	ON I	Q	QN	QN	QN
Trichloroethane	1.23L-03	1.23E-U3	1.90E-10	4.93E-08	8.622E-08	1.185E-12	1.724F-08
Ethyl Acadata	4.88E-03	4.88E-03	Q	QN	QN	QN	CN
1 2 Pizel	4.09E-03	4.09E-03	QN	QN	QN	S	
i,z-Uichioropropane	4.62E-03	4.62E-03	QN	9	QN	2 5	
Metnyl Methacrylate	4.09E-03	4.09E-03	2	Q.	QN	2 2	2 2
Ulbromomethane	7.11E-03	7.11E-03	Q	QN.	QN	2 2	
1,4-Dioxane	3.60E-03	3.60E-03	Q	QN	CN	2 2	2
Bromodichloromethane	6.70E-03	6.70E-03	Q.	2		2 2	2
4-Methyl-2-Pentanone	4.10E-03	4.10E-03	QN	QN	QN	2 2	
Oluene	1.88E-02	2.64E-03	2.86E-08	7.42E-06	1.298E-05	1 784E-10	2 507E 06
Octane	1.40E-03	4.67E-03	2.40E-09	6.23E-07	1.090E-06	1 498F-11	2.331E-00
trans-1,3-Dichioropropene	4.54E-03	4.54E-03	QN	Q	QN	CN	AID -0/
Ethyl Methacrylate	4.67E-03	4.67E-03	9	2	CN	2 2	2
1,1,2-Trichloroethane	5.46E-03	5.46E-03	9	CN		2 2	ON !
Tertrachloroethene	6.78E-03	6.78E-03	Q	S			QN
2-Hexanone	4.10E-03	4.10E-03	GN	2 2	2	a i	QN
Dibromochloromethane	8.52E-03	8.52E-03	Q	2 2	22	Q C	QN
1,2-Dibromoethane	7.68E-03	7.68E-03	Q	S	92	2	QN
Chlorobenzene	4.60E-03	4.60E-03	Ş	2 5	2	QN	ND
			9	2	ON.	ND	QN

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Cartri	artridge, 5:56-mm Ball, M855 (M18A1) 47.6 - 12.0 120.0 .	//855 (M18A1 ms tested => (V*(lbs) ±s		No.of.rounds (I) + 1 - 1 - 1 - 1 round release duration (I) + 1 release duration (I) + 1 release duration (I) + 1 release duration (III) + 1 release	1 - 1 - 1 Round Round 1 Round 1	rdund seconds g/m²/(g/s):
	ATC.F	C Firing Test Results1	1			1	
	Average	Daily Méasured	Average Adiusted	Average Adiusted	Totali Mass	Substance + Concentration	Substance Emission
	Actual	Background	Emission	Emišsion		(grams/m³)	Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(gramsm3)		(g/item)/sec
	(mg/m)	(щд/щ")	(lb/item) 🦫	(ID/ID NEW)	A D. L. C. L	ONOS	FIN
1,1,1,2-Tetrachloroethane	6.87E-03	6.87E-03	Ω	QN	ND	QN	ΩN
Ethylbenzene	1.52E-03	4.34E-03	2.65E-09	6.86E-07	1.201E-06	1.650E-11	2.401E-07
m/p-Xylene	3.69E-03	1.74E-03	3.61E-09	9.35E-07	1.636E-06	2.248E-11	3.272E-07
o-Xylene	2.61E-03	4.34E-03	4.51E-09	1.17E-06	2.045E-06	2.810E-11	4.090E-07
Styrene	3.41E-03	4.26E-03	5.92E-09	1.54E-06	2.687E-06	3.692E-11	5.374E-07
Bromoform ·	1.03E-02	1.03E-02	QN	ND	QN	QN	QN
Cumene	4.92E-03	4.92E-03	QN	ND	QN	ND	QN
1,1,2,2-Tetrachlorethane	6.87E-03	6.87E-03	QN	ND	QN	QN	QN
1,2,3-Trichloropropane	6.03E-03	6.03E-03	QN	ON	QN	QN	QN
Bromobenzene	6.42E-03	6.42E-03	QN	ND	QN	ND	QN
4-Ethyltoluene	1.97E-03	4.92E-03	3.37E-09	8.74E-07	1.530E-06	2.102E-11	3.059E-07
1,3,5-Trimethylbenzene	4.92E-03	4.92E-03	ON	ND	QN	ND	ON
Alpha Methyl Styrene	4.83E-03	4.83E-03	QN.	ND	QN	ND	QN
1,2,4-Trimethylbenzene	2.46E-03	4.92E-03	4.22E-09	1.09E-06	1.912E-06	2.627E-11	3.824E-07
1,3-Dichlorobenzene	6.01E-03	6.01E-03	ND	ND	QN	ND	GN
1,4-Dichlorobenzene	6.01E-03	6.01E-03	ND	QN	ND	ND	QN
Benzyl Chloride	5.18E-03	5.18E-03	ND	ND	QN	ND	QN
1,2-Dichlorobenzene	6.01E-03	6.01E-03	Q	Q	ND	ND	QN
Hexachlorethane	9.68E-03	9.68E-03	QN	QN	ND	ND	ON
1,2,4-Trichlorobenzene	7.42E-03	7.42E-03	ND	ND	QN	ND	QN
Hexachlorobutadiene	1.07E-02	1.07E-02	ND	ND	QN	ON	QN
VOC Tentatively Identified Compounds (TICs)	(S)(L) spunod						
Hydrocarbons	1. 14. 4. 31. 15. 5. 14. 15. 15. 15. 15. 15. 15. 15. 15. 15. 15						
Methane	6.40E+00	1.47E+00	8.80E-06	2.28E-03	3.989E-03	5.481E-08	7.979E-04
Ethylene	3.76E-01	2.29E-02	6.56E-07	1.70E-04	2.975E-04	4.088E-09	5.951E-05
Acetylene	5.27E-02	2.13E-02	9.18E-08	2.38E-05	4.164E-05	5.721E-10	8.328E-06
Ethane	2.13E-01	2.46E-02	3.73E-07	9.67E-05	1.692E-04	2.324E-09	3.384E-05
Propylene	5.59E-02	3.44E-02	9.76E-08	2.53E-05	4.429E-05	6.085E-10	8.857E-06

		-Apicolya (Validiti – M.E.W., (IOS.) =>	<= ((00)		3:86E:03 Unit Concentration (UC): 6:870E-05 u/m 3/(d/s)	F 6.870E.0E	15 a/m /(a/s)
	ATCF	Firing Test Results	1				9
	Average	Dally Measured	Adiisted	Average	Total Mass	Substance	Substance
	200	Background	Emission	Emission	Palled Son	Concentration	Emission
	Concentration	Concentration	Factor (EF)	Factor	(culsum)	(Niallis/III)	, Kate
	(mg/m ³)	(Mg/m³)	(lb/item)	(Ib/Ib NEW)		CONC	g/liem)/sec
Propane	3.61E-02	3.61E-02	Q	QN	QN	CN	CN
Propyne	3.20E-02	3.20E-02	Q.	QN	QN.	Q	
Isobutane	4.75E-02	4.75E-02	2	QN	QN	S	2 2
1-Butene/Isobutylene	4.59E-02	4.59E-02	QN	S	QN	Q.	CZ
1,3-Butadiene/butane	6.88E-02	6.88E-02	QN	Q.	QN	Q	CZ
cis-butene	4.59E-02	4.59E-02	QN	QN	QN	Q	QN
1-Butyne	4.59E-02	4.59E-02	QN	Q	QN	QN	CN
trans-Butene	4.59E-02	4.59E-02	QN	Q	QN	Q	S
2-Butyne	4.42E-02	4.42E-02	QN	Q	QN	QV	S
n-Pentane	5.90E-02	5.90E-02	Q	Q.	QN	QV	2
n-Hexane	3.93E-01	2.71E-01	2.38E-07	6.18E-05	1.082E-04	1 486F-09	2 164E_05
SVOCS							3
N-nitrosodimethylamine	1.84E-02	1.90E-02	QN	Q.	QN	ON	CN
Bis(2-chloroethyl)ether	1.84E-02	1.90E-02	QN	QN	QN	QN	CN
Phenol	1.84E-02	1.90E-02	QN	QN	ND	QN	QN
2-chlorophenol	1.84E-02	1.90E-02	ND	ΩN	QN	QN	QN
1,3-dichlorobenzene	1.84E-02	1.90E-02	QN	QN	QN.	QN	Q
1,4-dichlorobenzene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
1,2-dichlorobenzene	1.84E-02	1.90E-02	Q	QN	QN	QN	9
Benzyl alconol	1.84E-02	1.90E-02	Q	Q	QN	QN	QN
bis(z-cniorolsopropyi)ether	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
z-metnylpnenol	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
Hexachloroethane	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
N-nitroso-di-n-propylamine	1.84E-02	1.90E-02	QN	Q	QN	QN	QN
4-memyiphenoi	1.84E-02	1.90E-02	2	2	QN	QN	Q
Initioperizerie	1.84E-02	1.90E-02	Q	Q	ND	QV	QN
Sopriordile	1.84E-02	1.90E-02	Q	Q.	QN	QN	QN
z-nitrophenoi	1.84E-02	1.90E-02	2	2	QN	CZ	CIA

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Cartri	arridge: 5:56#mm Ball: M855 (M16A1)	M855-(M16A1	21 - 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	No. of Founds (I) Systems	Face Applicated Found on	round
		Number of Ite	Number of items lested	1 2 30	release duration (t):	21 45 45 17	15 seconds
	Tat Net Exp	Exblosive Weight⁴. N.E.W. (lb\$1)=>		40 BG = 10 B	Uniticoncentration (UC)	(s/g)/,ij/g s0:a0/g/g/g/g/	*(\$/\$)/; \ \/6
The state of the s	ATCF	C Firing Test Results					
	Average	Daily (Measured	Average	Average Adjusted	TotalMass	Substance concentration	Substance Emission
	Actual	Background?	r Emissión	Emission	Emitted	(grams/m³)	Rate
Combound	Concentration	Concentration is	Factor (Er)	Fattor	// (grams/m³)	CONC	(g/itém)/sec ER.
o d dimothological	1 84E-02	1 90F-02	QN	QN	ON	QN	QN
Die/2_chloroethoxy\methane	1.84E-02	1.90E-02	Q.	QN	ON	QN	QN
Dis(z-cinc) occurs/) incursion 2 4-dichlorophenol	1.84E-02	1.90E-02	QN	S	QN	QN	QN
1 2 4-trichlorobenzene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Naphthalene	1.49E-02	1.90E-02	2.61E-08	6.77E-06	1.185E-05	1.628E-10	2.369E-06
4-chloroaniline	1.84E-02	1.90E-02	QN	QN	ON	Q	QN
Hexachlorobutadiene	1.84E-02	1.90E-02	ND	QN	QN	QN	QN
4-chloro-3-methylphenol	1.84E-02	1.90E-02	QN	QN	QN	ND	QN
2-methylnaphthalene	1.84E-02	1.90E-02	QN	QN	QN	QN	Q N
Hexachlorocyclopentadiene	1.84E-02	1.90E-02	QN	QN	QN	QN	Q
2,4,6-trichlorophenol	1.84E-02	1.90E-02	ND	QN	QV	Q	QN
2,4,5-trichlorophenol	1.84E-02	1.90E-02	QN	Q	QN	QN	QN
2-chloronaphthalene	1.84E-02	1.90E-02	QN	2	QN	QN	Q
2-nitroaniline	1.84E-02	1.90E-02	QN	QN	Q	Q	Q
Acenaphthylene	1.84E-02	1.90E-02	QN	Q	QN	Q	QN .
Dimethylphthalate	1.84E-02	1.90E-02	Q	Q	QN	QN	Q
2,6-dinitrotoluene	1.84E-02	1.90E-02	Q.	Q	QN	Q.	Q.
Acenaphthene	1.84E-02	1.90E-02	2	2	ON !	Q S	2
3-nitroaniline	3.67E-02	3.79E-02	2	2	ON S	2 2	2 2
2,4-dinitrophenol	3.67E-02	3.79E-02	2			S S	2 2
Dibenzofuran	1.84E-02	1.90E-02	QN	Q.		2 2	Q S
2,4-dinitrotoluene	1.84E-02	1.90E-02	2	2	QN	QN :	ON !
4-nitrophenol	3.67E-02	3.79E-02	Q	QN	QN	Q	QN
Fluorene	1.84E-02	1.90E-02	2	Q	QN	Q	Q
4-chlorophenyl-phenylether	1.84E-02	1.90E-02	QN	Q	QN	Q	QN
Diethylphthalate	1.84E-02	1.90E-02	Q	2	Q	Q.	2
4-nitroaniline	3.67E-02	3.79E-02	Q.	2	QN		ON I
4,6-dinitro-2-methylphenol	3.67E-02	3.79E-02	Q	2	QN	QN	ON

	>1 .d2	DODING MANAGER			AND A CASE OF SWIED AS A STATE OF STATE		20112222
			- / (IOS) - /	3:86E-03	3/86E-03 Unit Concentration (UC):	6:870E:05 g/m/((g/s)	(s/b)), w/b
の 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3	Firing lest Results					1
	Average	Measimed	Average	Average	Total Mass	Substance	Substance
	Actual	Backereind	Emission	najenio –	os Substance	Concentration	Emission
Compound						(grams/m")	Rate
	(m/m)		ractor (Er) (b/item)	ractor (Ih/Ih/NE/w	(grams/m.)		(g/ifem)/sec
N-nitrosodiphenylamine(1)	1.84E-02	1.90E-02	ND	CN	UN		
4-bromophenyl-phenylether	1.84E-02	1.90E-02	S	S	22	ON.	a l
Hexachlorobenzene	1.84E-02	1.90E-02	2	Q Q	2 2	2 2	2 5
Pentachlorophenol	3.67E-02	3.79E-02	Q.	Q	S N	2 2	2 2
Phenanthrene	1.84E-02	1.90E-02	QN	2	S	2 2	
Anthracene	1.84E-02	1.90E-02	QN	QN	QN	2 2	2 2
Di-n-butylphthalate	1.39E-02	1.90E-02	2.42E-08	6.26E-06	1.096E-05	1 50RE-10	2 404 5
Fluoranthene	1.84E-02	1.90E-02	QN	QN	Q	N	4. 191E-00
Pyrene	1.84E-02	1.90E-02	QN	QV	QN	S	2 2
Butylbenzylphthalate	1.84E-02	1.90E-02	QN	Q	QN	CN	2 2
Benzo(a)anthracene	1.84E-02	1.90E-02	Q	Q.	Q.	CN	2 2
Chrysene	1.84E-02	1.90E-02	QN	2	QN	QN	S
3,3-dichlorobenzidine	1.84E-02	1.90E-02	QN	QN	QN	CN	S
Bis(2-ethylhexyl)phthalate	3.22E-01	4.93E-02	4.76E-07	1.23E-04	2.160E-04	2.968E-09	4 321E-05
Di-n-octylphthalate	1.84E-02	1.90E-02	QN	Q	QN	QN	CN CN
Benzo(b)fluoranthene	1.84E-02	1.90E-02	QN	Q.	QN	QN	CZ
Benzo(k)fluoranthene	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
Benzo(a)pyrene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Indeno(1,2,3-cd)pyrene	1.84E-02	1.90E-02	Q	QN	QN	QN	9
Dineriz(a,ri)ariunacene	1.84E-UZ	1.90E-02	Q	QN	QN	QN	Q
Serizo(g,ri,j)peryiene	1.84E-02	1.90E-02	QN	QN	QN	QN	Q
SVOC Tentatively Identified Compounds (TICS) TO-13 (PAHs)	npounds (TICs)	AND THE STORY OF STREET STREET STREET, STREET S	198	The second secon			
Naphthalene	7 075 03	2 401 00	2000				
Acenanhthylene	2.20= 04	4.00F.05	9.90E-09	2.57E-06	4.490E-06	6.169E-11	8.979E-07
Acenaphthene	2.29E-04	1.90E-05	3.99E-10	1.03E-07	1.811E-07	2.489E-12	3.623E-08
Fluorene	1 605-03	3.03E-05	8.18E-11	2.12E-08	3.710E-08	5.097E-13	7.419E-09
Phenanthrene	2 575 04	3.03E-05	2.44E-10	6.33E-08	1.107E-07	1.522E-12	2.215E-08
	4.37E-04	3.31E-U3	3.62E-10	9.37E-08	1.641E-07	2 255F-12	3 282E.08

Table B-3: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 200 meter location

	Cart	artridge, 5!56-mm Balli∴M855 (M18A1) <u>vyk prest</u> *Number of Items tested => <u>20mm</u> Explosive(Well9fth NIE(W."(lbs)) =≥ 386E25	M855 (M16A1 ms tested ≠> [W,"([6s]) =>		Notof founds (I) & C. release duration (I) 1% S. s. Unit Concernation (UC)		roynd seconds: (g/k)
から、	ATC	rc Firing Test Results!					
	* Average * Measured	Measured	Average < Adjusted	Average Adjusted	Total Mass	Substance Concentration	Súbstánce Emission
		Background	Emission	Emission	Emilled	(grams/m³)	Rate
Compound	Concentration.	Concentration (minima)	Fáctor(EF)	Factor	(grams/n.)	CONC	J(g/item)/sec ER
Anthracene	3.03E-05	1.90E-05	5.31E-11	1.38E-08	2.408E-08	3.308E-13	4.816E-09
Fluoranthene	2.39E-04	1.90E-05	4.17E-10	1.08E-07	1.893E-07	2.602E-12	3.787E-08
Pyrene	5.14E-04	1.90E-05	9.00E-10	2.33E-07	4.081E-07	5.608E-12	8.163E-08
Benzo(a)anthracene	9.91E-05	1.90E-05	1.73E-10	4.48E-08	7.842E-08	1.078E-12	1.568E-08
Chrysene	1.18E-04	1.90E-05	2.06E-10	5.35E-08	9.367E-08	1.287E-12	1.873E-08
Benzo(b)fluoranthene	2.20E-04	1.90E-05	3.85E-10	9.97E-08	1.744E-07	2.397E-12	3.489E-08
Benzo(k)fluoranthene	8.63E-05	1.90E-05	1.51E-10	3.91E-08	6.836E-08	9.392E-13	1.367E-08
Benzo(e)pyrene	3.49E-04	1.90E-05	6.08E-10	1.58E-07	2.758E-07	3.790E-12	5.516E-08
Benzo(a)pyrene	1.18E-04	1.90E-05	2.07E-10	5.36E-08	9.378E-08	1.289E-12	1.876E-08
Indeno(1,2,3-cd)pyrene	2.02E-04	1.90E-05	3.53E-10	9.14E-08	1.599E-07	2.197E-12	3.198E-08
Dibenz(a,h)anthracene	3.48E-05	1.90E-05	6.06E-11	1.57E-08	2.751E-08	3.779E-13	5.501E-09
Benzo(g,h,i)perylene	7.07E-04	1.90E-05	1.24E-09	3.20E-07	5.606E-07	7.703E-12	1.121E-07
Dioxins and Furans							
2378-TCDD	5.02E-09	4.41E-09	QN	ND		QN	QN
12378-PECDD	2.86E-09	2.50E-09	QN	ND	QN	QN	QN
123478-HXCDD	2.58E-09	2.45E-09	QN	ND	ND	ON	ΩN
123678-HXCDD	2.64E-09	2.51E-09	Q	ND	QN	ND	ON
123789-HXCDD	2.45E-09	2.33E-09	QN	ND	ND	ND	QN
1234678-HPCDD	4.93E-09	3.75E-09	8.65E-15	2.24E-12	3.923E-12	5.390E-17	7.846E-13
осор	6.04E-08	4.61E-08	3.09E-14	8.00E-12	1.400E-11	1.923E-16	2.799E-12
2378-TCDF	2.08E-09	1.80E-09	Q	ND	ND	ND	QN
12378-PECDF	2.47E-09	2.22E-09	QN	ND	ON	QN	QN
23478-PECDF	2.52E-09	2.39E-09	QN	ND	QN	QN	QN
123478-HXCDF	1.55E-09	1.52E-09	QN	ND	ND	QN	QN
123678-HXCDF	1.54E-09	1.49E-09	QN	ND	ON	QN	QN
123789-HXCDF	4.23E-09	4.58E-09	QN	QN	ON	QN	QN
234678-HXCDF	1.68E-09	1.60E-09	QN	QN	ON	QN	QN
1234678-HPCDF	9.18E-10	7.64E-10	1.67E-15	4.33E-13	7.585E-13	1.042E-17	1.517E-13

	Carti	artridge: 5:56•mm Ball, M855 (M18A1) Number of items tested ⇒ 20	556•mmBall M855 (M18A1 Number of thems tested ⇒	20	No of rounds (I) [1]		round
	XI TOLK	Capital Tast Day (141	(sa) '- (3.865-03	Unit concentration (UC):		@/m /(g/s)
		Sipon real River		W.5.			
	Average	Dally	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjüsted	os Substance 1	Concentration	Emission
	Actual	Background	Emission	Emission	Emilied	(grams/m³)	Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/m³)		(d/item)/sec
	(mg/m³)	(mg/m³)	(lb/item)	(lb/lb NEW)		CONC	ER,
1234789-HPCDF	2.42E-09	6.29E-09	QN	QN	QN	QN	QN
OCDF .	3.21E-09	2.70E-09	9	QN	QN	2	QN
Energetics							
Nitrobenzene	3.55E-03	NA	QN	S	QN	QN	ND
2-Nitrotoluene	3.55E-03	NA	ΩN	Q	QN	QN	QN
3-Nitrotoluene	3.55E-03	NA	QN	Q.	QN	QN	QN
4-Nitrotoluene	3.55E-03	NA	Q.	Q	QN	QV	Q
Nitroglycerine	3.55E-03	NA	QN	QN	QN	QN	QN
1,3-Dinitrobenzene	3.55E-03	NA	QN	QN	QN	S	Q
2,6-Dinitrotoluene	3.55E-03	NA	QN	QN	QN	QN	QN
2,4-Dinitrotoluene	3.55E-03	NA	QN	QN	QN	QN	QN
1,3,5-Trinitrobenzene	3.55E-03	NA	QN	QN	ON	Q	QN
2,4,6-Trinitrotoluene	3.55E-03	ΝΑ	QN	DN	QN	Q	QN
RDX	3.55E-03	NA	QN	QN	QN	9	N
4-Amina-2,6-Dinitrotoluene	3.55E-03	NA	QN	ND	QN	Q	ND
2-Amino-4,6-Dinitrotoluene	3.55E-03	NA V	QN	QN	QN	2	QN.
Tetryl	3.55E-03	NA	QN	ND	QN	Q	S
HMX	7.10E-03	NA	QN	ON	QN	QN	ND
Pentaerythritoltetranitrate	7.10E-03	NA	Q	ND	ND	Q	QN
Dibutyl phthalate	1.77E-01	NA	ND	ND	QN	Q	NO.
Dioctyl phthalate	1.77E-01	NA	QN	ND	ON	Q	QN ON
Diphenylamine	8.87E-02	A A	ND	QN	ON	QN	QN
Footnotes:							

'ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study) NA = Not Applicable ND = Not Detected

Table B-4: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 200 meter location

	Cart.	artridge, 5.56-mm Ball-M855.(M16A2) ************************************	M855.(M16A2 ms tested => \V *(lbs)*≝\$))	1) ************************************	78.9	1 rounds 5 geconds 0E:05 g/m /(g/s)
	ATC.	C.Firing Test Results.					
	Average	Dally Measured	Average	Average	TotaliMass	Substance	Substance
	Actual	Background	Emission	Emission			Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	170	(grafins/m)	(g/item)/sec
PermanantiGases	(mg/m); (mg/m);	(m/g/m)	(meji/di)**	(lo/lo, NE(V))		CONC	יייים איניים
Ammonia (NH3)	3.41E+01	NA	3.35E-05	8 69E-03	1.521E-02	2 090E-07	3 042E 03
Carbon Dioxide (CO2)	8.35E+02	NA	8.21E-04	2.13E-01	3.722E-01	5.114E-06	7.445E-02
Carbon Monoxide (CO)	1.63E+03	NA	1.60E-03	4.16E-01	7.278E-01	1.000E-05	1.456E-01
Oxides of Nitrogen (NOx)	8.43E+01	NA	8.28E-05	2.15E-02	3.755E-02	5.159E-07	7.510E-03
Sulfur Dioxide (SO2)	2.62E-01	NA	ND	ND	QV	ND	QN
Acid Gases "						1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
Hydrogen Fluoride	2.20E-01	2.50E-01	Q	ND	ON	QN	2
Hydrogen Chloride	2.15E-01	2.50E-01	ND	ND	ON	QN	S
Hydrogen Bromide	2.10E-01	2.40E-01	ND	ND	QN	Q	ND
Nitric Acid	4.00E-01	2.40E-01	5.85E-07	1.52E-04	2.655E-04	3.647E-09	5.309E-05
Phosphoric Acid	2.15E-01	2.40E-01	ND	ND	QN	QN	QN
Sulfuric Acid	2.15E-01	2.50E-01	ND	ND	ON	QN	Q
<u>Cyaniida</u>				1. 1.2. 2.0			
Particulate Cyanide	1.20E-02	1.20E-02	QN	ND		QN	QN
Hydrogen Cyanide	2.39E+01	1.30E-02	2.66E-05	6.89E-03	1.205E-02	1.656E-07	2.411E-03
<u>Particulates</u>							
Total Suspended Particulate	3.50E+01	NA	3.90E-05	1.01E-02	1.768E-02	2.430E-07	3.537E-03
Particulate Matter <10 microns	3.59E+01	NA	4.00E-05	1.04E-02	1.813E-02	2.490E-07	3.625E-03
Particulate Matter <2.5 microns	2.48E+01	AN	2.76E-05	7.14E-03	1.250E-02	1.718E-07	2.500E-03
Metals			* *				
Aluminum	2.12E-01	8.95E-02	1.48E-07	3.83E-05	6.698E-05	9.203E-10	1.340E-05
Antimony	1.78E+00	2.37E-01	1.74E-06	4.51E-04	7.889E-04	1.084E-08	1.578E-04
Arsenic	1.36E-02	1.41E-02	ND	ON	ON	QN	QN
Barium	1.06E+00	5.65E-02	1.17E-06	3.03E-04	5.306E-04	7.290E-09	1.061E-04
Beryllium	5.45E-02	5.65E-02	Q	ND	QN	QN	S
Cadmium	5.45E-02	5.65E-02	Q	QN	ON	QN	QN
Calcium	4.54E-01	7.26E-02	4.33E-07	1.12E-04	1.965E-04	2.699E-09	3.929E-05

M855data200m.xls

Table B-4: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 200 meter location

	NALEY	Number of items tested =>		2000	(5) release out #1(on (t):		5 seconds
				S ODE-US	Stop E-0-4/4/ Unit Concentration (UC):	.: 6,870E-05 g/m /(g/s)	(g/g)/_m/g
	ATCE	Firing Test Results					
	Average	Daily	Average	Average	Total Mass	Substance	Substance
「The Control of the	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
	Actual	Background -	Emission	Emišsion	Emitted		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(graffis/item)	(grams/m³)	/ (a/item)/sec
	(നീള/സീ)	(മ്പ്യാപ്പ	(lb/iterri)	(Ib/Ib NEW)		CONC	ER.
Chromium	5.45E-02	5.65E-02	QN	QN	ND	QN	CN
Cobalt	5.45E-02	5.65E-02	QN	2	QN	Q	Q
Copper	1.43E+01	7.51E-02	1.58E-05	4.10E-03	7.178E-03	9.863E-08	1.436E-03
Lead	4.54E+00	5.65E-02	5.04E-06	1.31E-03	2.285E-03	3.140E-08	4.571E-04
Magnesium	5.45E-02	5.65E-02	QN	QN	QN	QN	Q.
Manganese	5.45E-02	5.65E-02	QN	QN	QN	QN	QN
Nickel	5.45E-02	5.65E-02	QN	QN	QN	QN	QN
Selenium	1.36E-02	1.41E-02	QN	QN	QN	QN	Q
Silver	5.45E-02	5.65E-02	QN	QN	QN	QN	S
Thallium	5.45E-02	5.65E-02	QN	QN	QN	QN	Q
Vanadium	5.45E-02	5.65E-02	QN	QN	QN	QN	QN
Zinc	1.86E+00	5.65E-02	2.07E-06	5.38E-04	9.410E-04	1.293E-08	1.882E-04
TO-11 Carbonyls			一种种种种种的				
Formaldehyde	6.76E-02	1.23E-01	7.54E-08	1.95E-05	3.418E-05	4.697E-10	6.837E-06
Acetaldehyde	1.80E-01	1.80E-01	QN	ND	QN	QN	QN
Acetone	1.19E+00	1.19E+00	QN	QN	ON	QN	QN
Acrolein	2.29E-02	2.29E-01	2.56E-08	6.62E-06	1.159E-05	1.593E-10	2.318E-06
Proprionaldehyde	2.37E-01	2.37E-01	QN	QN	ND	QN	QN
Crotonaldehyde	1.15E-01	1.43E-01	QN	ND	ON	QN	QN
Butyraldehyde	2.95E-01	2.95E-01	ΩN	ND	ND	QN	QN
Benzaldehyde	4.34E-01	4.34E-01	Q.	ND	QN	QN	QN
Isovaleraldehyde	3.52E-01	3.52E-01	ΩN	ΩN	QN	QN	QN
Valeraldehyde	3.52E-01	3.52E-01	QN	QN	QN	QN	QN
o,m,p-Tolualdehyde	4.91E-01	4.91E-01	ND	QN	QN	Q	QN
Hexaldehyde	4.10E-01	4.10E-01	QN	QN	QV	QN	QN
2,5-Dimethylbenzaldehyde	4.10E-01	4.10E-01	Q.	ND	QN	QN	QN
VOCs						2.0	
Propene	7.31E-02	1 72F-03	9 18E 09	2 12E 05	202000	The state of the s	Same of the state

Table B-4: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 200 meter location

	Catrr Neti Ex	artridge, 5.56-mm.Ball, M855 (M16A2) **********************************	.56-mm.Ball w855 (M16A. Ndriber. of Items, tesfed => Weight - N.E.W. (Ibs.) =3	19999999999999999999999999999999999999	No.: Okrounds (II) FT. (F. 1978) FEB sea duration (II) FEB sea duration (III) FEB sea duration (III) FEB sea duration (IIII) FEB sea duration (IIIII) FEB sea duration (IIIII) FEB sea duration (IIIIII) FEB sea duration (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	** Seconds (Seconds (round: seconds gim./(gis)
	ATCF	C Firing Test Results!					
1000年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	Average	Daily	Average	1 3600		Substance	Substance
	Measured	Measured	Adjusted	Adjusted	**************************************	Concentration	Emission
	Actual	Background	Emission	Emission			Râte
Compound	Concentration	Concentrátion	Factor (EF)	Factor	(grams/item)	(grams/m.)	(g/tem)/sec
Dichlorodiflouromethane	2.23E-03	(mg/m/); 2 97E-03	(mem) ND	(WEIN OI/OI)	OIV	SNOW.	CIN
Chlorodifluoromethane	3.54E-03	3.54E-03	S	2	2	Q N	2 2
Freon 114	6.99E-03	6.99E-03	QN	QN	QN	QN	QN
Chloromethane	1.24E-03	2.07E-03	1.42E-09	3.67E-07	6.428E-07	8.833E-12	1.286E-07
Vinyl Chloride	2.56E-03	2.56E-03	DN	QN	QN	QN	2
1,3-Butadiene	1.44E-02	2.21E-03	1.61E-08	4.17E-06	7.296E-06	1.003E-10	1.459E-06
Bromomethane	3.88E-03	3.88E-03	ND	QN	QN	QN	QN
Chloroethane	2.64E-03	2.64E-03	ND	QN	QN	QN	QN
Dichlorofluoromethane	4.21E-03	4.21E-03	QN	QN	QN	QN	QN
Trichloroflouromethane	1.12E-03	1.69E-03	QN	QN	QN	QN	<u>N</u>
Pentane	2.95E-03	2.95E-03	QN	QN	QN	QN	QN
Acrolein	2.29E-03	2.29E-03	ND	QN	QN	QN	QN
1,1-Dichlorethene	4.05E-03	4.05E-03	ND	ND	QN	QN	QN
Freon 113	7.68E-03	7.68E-03	ND	ND	QN	QN	QN
Acetone	3.92E-02	1.90E-02	2.49E-08	6.44E-06	1.128E-05	1.550E-10	2.256E-06
Methyl lodide	5.81E-03	5.81E-03	ND	ND	QN	QN	QV
Carbon Disulfide	3.11E-03	3.11E-03	QN	ND	ON	QN	QN
Acetonitrile	5.71E-01	1.34E-02	6.25E-07	1.62E-04	2.833E-04	3.893E-09	5.667E-05
3-Chloropropene	3.13E-03	3.13E-03	ND	ND	QN	QN	QN
Methylene Chloride	1.91E-01	1.39E-02	1.98E-07	5.14E-05	8.988E-05	1.235E-09	1.798E-05
tert-Butyl Alcohol	3.03E-03	3.03E-03	ND	ND	QN	QN	QN
Acrylonitrile	4.45E-02	2.17E-03	4.97E-08	1.29E-05	2.254E-05	3.098E-10	4.509E-06
trans-1,2-Dichloroethene	3.96E-03	3.96E-03	ND	ND	QN	QN	QN
Methyl t-Butyl Ether	3.61E-03	3.61E-03	QN	ND	QN	S	QN
Hexane	1.46E-01	2.47E-02	1.40E-07	3.62E-05	6.337E-05	8.707E-10	1.267E-05
1,1-Dichloroethane	3.97E-03	3.97E-03	Q	ND	QN	Q	QN
Vinyl Acetate	3.52E-03	3.52E-03	QN	ND	QN	QN	QN
cis-1,2-Dichloroethene	3.96E-03	3.96E-03	Q	ND	QN	QN	QN
					A		ı

Collection Col		T	iniuge; 5:50-mm Ball, M855 (M16A2)	Hallm) ccam	2)	No of rounds (I)		1 round
Average Neasured Augusta Augus		* 53,25	Number of It	ems tested =>		release(duration (t):		seconds
Ancetage		376	N + Tage NACION	<= ((Sa)) :- ^	€ 3:86E±03.*	Unit Concentration (UC)		(s/b)/, m/b
Average Daily Mergage Average Average Daily Average Average Average Average Total Massured Adjusted Ad		۲I	Firing Test Results	T. S. A. S.				
Méasured Actual Méasured Measured M	の の の の の の の の の の の の の の の の の の の	Average	Daily	Average	Avarana	Total Man.		
Actual Concentration (1671em)		Measured	Measured	Adjusted	Adhisted	Scenification	Substance	Substance
d. Concentration Concentration Concentration Factor (E) ND ND<		Actual	Background	Emission	Emission	THINE	Concentration	Emission
(mg/m²) (mg/m²) (mj/m²) (mj/m²) (mh/m²) (mh/m²	Compound	Concentration	Concentration	Factor (EF)	Factor			Rate
2.95E-03 2.95E-03 1.81E-08 ND ND ND ND 1.62E-02 3.60E-03 1.81E-08 4.88E-06 ND ND ND 1.62E-03 3.62E-03 1.81E-08 4.88E-06 ND ND ND 2.48E-03 1.09E-03 1.69E-03 1.69E-03 1.69E-03 1.69E-04 4.38E-07 7.63E-07 6.29E-03 6.29E-03 1.69E-03 1.36E-08 3.51E-06 6.150E-04 1.21E-02 4.05E-03 1.36E-08 3.51E-06 6.150E-04 ND 4.67E-03 4.05E-03 1.36E-08 3.51E-06 6.150E-04 ND 4.09E-03 4.09E-03 ND ND ND ND		(mg/m³).	(Mg/m³)	(lb/item)	(Ib/Ib/NEW)	(glaus/lem)	(grams/m.)	(g/item)/sec
1.62E-02 3.60E-03 1.81E-08 4.68E-06 8.191E-06 ND	2-Butanone	2.95E-03	2.95E-03	GN	CN	ON	2000	X1
3.52E-03 3.52E-03 ND ND ND ND ND C.24E-03 1.09E-03 1.69E-09 4.88E-03 ND ND ND C.24E-03 1.09E-03 1.69E-09 4.38E-07 7.673E-07 ND C.24E-03 1.09E-03 1.69E-09 4.38E-07 7.673E-07 ND C.23E-01 1.60E-03 1.96E-03 1.96E-03 1.96E-03 ND	Ethyl Acetate	1.62E-02	3.60E-03	1 81E-08	A GRE OF	UN O TOOL O	Q	Q
4.88E-03 4.88E-03 ND ND ND ND 1.246E-03 1.09E-03 1.69E-09 4.38E-07 7673E-07 6.29E-03 1.09E-03 1.59E-09 4.38E-07 7673E-07 ND 1.21E-02 4.05E-03 1.30E-08 3.51E-06 6.150E-06 6.53E-01 1.60E-03 1.30E-03 1.30E-04 3.146E-04 1.00E-03 4.09E-03 ND	Methyl Acrylate	3.52E-03	3.52E-03	CN	4.00E-00	0.191E-UB	1.125E-10	1.638E-06
2.46E-03 1.09E-03 1.66E-09 4.38E-07 7.673E-07	Chloroform	4.88E-03	4.88E-03	2	2 2		QN	Q
6.29E-03	1,1,1-Trichloroethane	2.46E-03	1.09F-03	1 ROE-00	A 29E 07	UN ON COL	QN	Q
1.21E-02	Carbon Tetrachloride	6.29E-03	6 29E-03	SO JON	1.30E-07	70-3E-07	1.054E-11	1.535E-07
6.23E-01 1.60E-03 6.94E-07 1.80E-04 3.146E-04 4.67E-03 4.67E-03 ND	1,2-Dichlorethane	121F-02	4 05E-03	4 26 F 00	ON C	ON.	Q	QN
4.67E-03 4.67E-03 4.06E-04 3.146E-04 4.10E-03 4.10E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 4.88E-03 4.10E-03 ND ND ND 4.88E-03 4.09E-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 8.00E-03 8.00E-03 ND ND ND 9.00E-03 8.70E-03 8.72E-06 1.527E-05 2 10E-03 4.10E-03 ND ND ND 10E-03 4.67E-03 8.72E-06 1.527E-05 2 10E-03 4.67E-03 ND ND ND 10E-03 4.10E-03 ND ND ND 10E-03 4.10E-03 ND ND ND 10E-03 4.10E-03 N	Benzene	6 23F-01	1 ROE 03	1.30E-U0	3.51E-06	6.150E-06	8.450E-11	1.230E-06
4.10E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 8.10E-03 3.60E-03 ND ND ND 9.00E-03 6.70E-03 ND ND ND 10.00E-03 6.70E-03 ND ND ND 10.00E-03 4.10E-03 ND ND ND 10.00E-03 4.50E-03 ND ND ND 10.00E-03 4.10E-03 ND ND <td>Isooctane</td> <td>4 R7E 02</td> <td>1.00E-03</td> <td>0.94E-U/</td> <td>1.80E-04</td> <td>3.146E-04</td> <td>4.323E-09</td> <td>6.293E-05</td>	Isooctane	4 R7E 02	1.00E-03	0.94E-U/	1.80E-04	3.146E-04	4.323E-09	6.293E-05
4.88E-03 4.10E-03 ND ND ND ND ND 4.88E-03 A.88E-03 ND	Heptane	4 405 03	4.6/E-03	Q.	Q	QN	QN	QN
4.88E-03 A. BBE-03 ND ND ND 4.09E-03 4.09E-03 NGE-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND ND 4.09E-03 4.09E-03 ND ND ND ND 7.11E-03 7.11E-03 ND ND ND ND 8.6DE-03 3.60E-03 ND ND ND ND 8.6DE-03 3.60E-03 ND ND ND ND 9.70E-03 4.10E-03 ND ND ND ND 9.0E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND ND 8.67E-03 4.67E-03 ND ND ND ND 8.52E-03 8.52E-03 ND ND ND ND 8.60E-03 7.68E-03 ND ND ND ND	Trichloroethana	4. 10E-03	4.10E-03	Q	ND	ND	QN	CZ
4.09E-03 ND ND ND 4.62E-03 NDE-03 4.62E-03 ND ND 4.09E-03 4.62E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 3.60E-03 3.60E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 9.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND 9.0E-02 3.77E-03 ND ND ND 9.0E-02 3.77E-03 ND ND ND 9.0E-02 4.67E-03 ND ND ND 8.67E-03 6.78E-03 ND ND ND 8.52E-03 ND ND ND ND 8.60E-03 7.68E-03 ND ND ND 8.60E-03 7.68E-03 ND <t< td=""><td>Ethyl Acrylate</td><td>4.88E-U3</td><td>4.88E-03</td><td>QN</td><td>ND</td><td>QN</td><td>QN</td><td>S</td></t<>	Ethyl Acrylate	4.88E-U3	4.88E-03	QN	ND	QN	QN	S
4.62E-03 ND ND ND 4.09E-03 4.09E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 8.00E-03 3.60E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 3.02E-02 3.77E-03 ND ND ND 4.67E-03 4.67E-03 ND ND ND 5.46E-03 6.78E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 8.52E-03 ND ND ND ND 7.68E-03 7.68E-03 10D ND ND 4.60E-03 7.68E-03 ND ND ND 4.60E-03 7.68E-03 ND ND ND	1.2 Dichloroproper	4.09E-03	4.09E-03	Q	ND	QN	QN.	CN
4.09E-03 4.09E-03 ND ND ND 7.11E-03 7.11E-03 ND ND ND 3.60E-03 3.60E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 3.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND 5.46E-03 5.46E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 8.52E-03 ND ND ND ND 7.68E-03 7.68E-03 ND ND ND	1,z-Dichloppiopare	4.62E-03	4.62E-03	QN	QN	QN	CN	
7.11E-03 7.11E-03 ND ND 3.60E-03 3.60E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 3.02E-02 3.77E-03 ND ND ND 4.67E-03 4.67E-03 ND ND ND A.54E-03 4.67E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 8.52E-03 ND ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.60E-03 7.68E-03 ND ND ND	Dibromometry atte	4.09E-03	4.09E-03	QN	QN	ND	CN	2 2
3.60E-03 3.60E-03 ND ND ND 6.70E-03 6.70E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 3.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND 5.46E-03 4.67E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 6.78E-03 4.10E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.06-03 4.60E-03 ND ND ND	1 4 Discontinuities	7.11E-03	7.11E-03	QN	Q	QN	CN	
6.70E-03 6.70E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 3.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND 5.46E-03 6.78E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 6.78E-03 4.10E-03 ND ND ND 7.68E-03 8.52E-03 ND ND ND 7.68E-03 ND ND ND	r,4-Dioxarie	3.60E-03	3.60E-03	QN	QN	QN	CN	2 2
4.10E-03 A.10E-03 ND ND 3.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND **Ine 4.54E-03 A.54E-03 ND ND ND **Ine 4.67E-03 ND ND ND ND **Ine 4.67E-03 ND ND ND ND **Ine 6.78E-03 ND ND ND ND **Ine 4.10E-03 4.10E-03 ND ND ND **Ine 7.68E-03 ND ND ND ND **Ine 7.68E-03 ND ND ND ND **Ine 7.68E-03 ND ND ND ND	Math. 1.2 Post	6.70E-03	6.70E-03	QN	Q	QN	S	2 2
3.02E-02 3.77E-03 3.37E-08 8.72E-06 1.527E-05 4.67E-03 4.67E-03 ND ND ND 5.4E-03 4.67E-03 ND ND ND 6.78E-03 5.46E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.06E-03 7.68E-03 ND ND ND	4-ivietnyl-z-Pentanone	4.10E-03	4.10E-03	QN	Q	QN	G.	Q Q
4.6 / E-U3 4.6 / E-U3 4.6 / E-U3 ND ND ND 4.5 / E-U3 4.5 / E-U3 ND ND ND ND 4.6 / E-U3 5.4 / E-U3 ND ND ND ND 6.7 / RE-U3 6.7 / RE-U3 ND ND ND ND 4.10 / C-U3 4.10 / C-U3 ND ND ND ND 7.6 / RE-U3 8.5 / LC-U3 ND ND ND ND 4.10 / C-U3 7.6 / RE-U3 ND ND ND ND 4.6 / C-U3 4.6 / RE-U3 ND ND ND ND	Octana	3.02E-02	3.77E-03		8.72E-06	1.527E-05	2.098E-10	3.054F-06
4.54E-03 4,54E-03 ND ND ND ND ND S.46F-03 6,78E-03 ND ND ND ND ND S.46E-03 ND	trans_1 3 Dichlorogram	4.57E-03	4.67E-03	QN	ND	QN	QN	CN
4.67E-03 4.67E-03 ND ND ND 5.46E-03 5.46E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.60E-03 4.60E-03 ND ND ND	Ethyl Methachilate	4.54E-03	4.54E-03	Q	QN	QN	9	S
5.40E-03 5.46E-03 ND ND ND 6.78E-03 6.78E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.60E-03 4.60E-03 ND ND ND	1 1 2-Trichlomethans	4.67E-03	4.67E-03	Q	QN	QN	2	CN
0.78E-03 6.78E-03 ND ND ND 4.10E-03 4.10E-03 ND ND ND 8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.60E-03 4.60E-03 ND ND ND	Terrachloroethons	5.46E-03	5.46E-03	ΩN	QN	QN	QN	CN
4.10E-03 4.10E-03 ND ND ND 8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND ND ND 4.60E-03 4.60E-03 ND ND ND	2 Hoxanono	b./8E-U3	6.78E-03	Q	QN	QN	CN	2
8.52E-03 8.52E-03 ND ND ND 7.68E-03 7.68E-03 ND	Z-riexallolle Dibro	4.10E-03	4.10E-03	QN	QN	QN	S	2 2
7.68E-03 7.68E-03 ND ND ND 4.60E-03 4.60E-03 ND ND ND	Ulblofinochloromethane	8.52E-03	8.52E-03	QN	Q.	QN	S	2
4.60E-03 4.60E-03 NP NP	1,z-Uibromoethane	7.68E-03	7.68E-03	QN	N O	CN	2 2	2 2
	Chlorobenzene	4.60E-03	4.60E-03	CN	S		2	ON I

Table B-4: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 200 meter location

	¥9 19 N. ≨/ 	Cartridge, 5.66-mm Ball.:M865-(M16A2 Number of tiems tested ⇒> €t Explosive Weight - N.EW-(188)) ⇒	M855 (M16A) ms tested => W-(lbs) =¥	15 15 11 11 11 11 11 11 11 11 11 11 11 1	Cartridge, 5,56-mm Ball, M855 (M16A2) ************************************	40 = 1289 9	f counds 5 seconds
		TC Firing, Test Results					2
	Average	Daily	Average	Average	Total Mass	Substance	Substance
の 1 年 1 日本の 1 日本	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	- 3
· · · · · · · · · · · · · · · · · · ·	Actual	Background	Emission	Emission	Enfilled	MT.	Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item).	(grams/m²)	(g/item)/sec
1 1 1 2-Tetrachloroethane	6 87E-03	(mg/m;)	(memor)	((WENNO))		CONC	ER.
Thy bondono	0.071.00	0.07 E-03	ON C	2	ON	Q	Q
m/m X-dane	Z.8ZE-03	4.34E-03	3.17E-09	8.21E-07	1.438E-06	1.975E-11	2.875E-07
m/p-Aylene	6.30E-03	4.34E-03	7.10E-09	1.84E-06	3.218E-06	4.422E-11	6.437E-07
o-Aylene	3.47E-03	4.34E-03	3.90E-09	1.01E-06	1.770E-06	2.432E-11	3.540E-07
Styrene	8.52E-03	4.26E-03	9.51E-09	2.47E-06	4.315E-06	5.929E-11	8.630E-07
Bromotorm	1.03E-02	1.03E-02	ND ND	QN	QN	QN	Q
Cumene	4.92E-03	4.92E-03	ND	QN	QN	QN	Q
1,1,2,2-Tetrachlorethane	6.87E-03	6.87E-03	ND	QN	Q	Q.	Q
1,2,3-Trichloropropane	6.03E-03	6.03E-03	QN	Q	QN	Q	S
Bromobenzene	6.42E-03	6.42E-03	QN	QN	QN	Q	S
4-Ethyltoluene	1.47E-03	4.92E-03	1.65E-09	4.27E-07	7.469E-07	1.026E-11	1 494F-07
1,3,5-Trimethylbenzene	9.83E-04	4.92E-03	1.12E-09	2.91E-07	5.101E-07	7.009E-12	1.020E-07
Alpha Methyl Styrene	4.83E-03	4.83E-03	QN	Q.	QN	QN	S
1,2,4-Trimethylbenzene	2.95E-03	4.92E-03	3.31E-09	8.57E-07	1.500E-06	2.061E-11	3.000F-07
1,3-Dichlorobenzene	6.01E-03	6.01E-03	QN	QN	QN	QN	QN
1,4-Dichlorobenzene	6.01E-03	6.01E-03	QN	QN	QN	QN	QN
Benzyl Chloride	5.18E-03	5.18E-03	Q	QN	QN	QN	Q
1,2-Uichlorobenzene	6.01E-03	6.01E-03	Q	Q	QN	QN	QN
Hexachiorethane	9.68E-03	9.68E-03	Q	2	QN	QN	QN.
1,2,4-1 richiorobenzene	7.42E-03	7.42E-03	Q	Q	QN	Q	QN
Hexachiorobutadiene	1.07E-02	1.07E-02	Q	Q	QN	QN	QN
VOC Tentatively Identified Compounds (TICs)	ounds (TICs)						
Hydrocarbons						1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
Methane	1.05E+01	1.36E+00	1.04E-05	2.68E-03	4.697E-03		9.394E-04
Ethylene	6.94E-01	2.29E-02	7.71E-07	2.00E-04	3.497E-04	4.805E-09	6.995E-05
Acetylene	9.43E-02	2.13E-02	1.05E-07	2.72E-05	4.755E-05	6.534E-10	9.510E-06
Ethane	3.81E-01	2.46E-02	4.23E-07	1.10E-04	1.920E-04	2.638E-09	3.839E-05
Propylene	1.39E-01	3.44E-02	1.53E-07	3.97E-05	6.953E-05	9.553E-10	1.391E-05

		Number of Ite	Number of Items tested =>	16.1	release duration (t): +	Seconds - 5	Corrando
		のでは 一日の大学は 一年の日のできる			THE PARTY OF THE PROPERTY OF THE PARTY OF TH		20000
	Net Ex	xblosive.Weight∹N.E.W. (lbs.) =>	.W. (lbs.) =>	3.86E-03.1	3:86E-03.4 Onit Concentration (UC):		(g/m,/(g/s)
	ATCF	Firing Test Results		A Table 1			
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
	Actual	Background	Emission	Emission .	Eminted		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m³)	(a/itém)/sec
	(mg/m³)	(mg/m³)	(lb/item)	(IID/IB,NEW)		CONC	ER,
Propane	3.61E-02	3.61E-02	QN	QN	QN	QN	QN
Propyne	3.20E-02	3.20E-02	Q	QN	QN	QN	Q
Isobutane	4.75E-02	4.75E-02	QN	Q	ND	QN	QV
1-Butene/Isobutylene	8.26E-02	4.59E-02	9.03E-08	2.34E-05	4.096E-05	5.628E-10	8.193E-06
1,3-Butadiene/butane	6.88E-02	6.88E-02	ND	QN	ND	QN	Q.
cis-butene	4.59E-02	4.59E-02	ND	QN	ND	QN	QN
1-Butyne	4.59E-02	4.59E-02	QN	QN	QN	QN	QN
trans-Butene	4.59E-02	4.59E-02	ND	QN	QN	Q	QN
2-Butyne	4.42E-02	4.42E-02	QN	QN	QN	QV	QN
n-Pentane	5.90E-02	5.90E-02	QN	Q	QN	Q	Q
n-Hexane	1.22E-01	7.05E-02	1.36E-07	3.51E-05	6.152E-05	8.452E-10	1.230E-05
<u>SVOCs</u>							
N-nitrosodimethylamine	1.79E-02	1.83E-02	QN	Q	QN	QN	QN
Bis(2-chloroethyl)ether	1.79E-02	1.83E-02	QN	Q	QN	QN	2
Phenol	1.79E-02	1.83E-02	QN	QN	QN	QN	Q
2-chlorophenol	1.79E-02	1.83E-02	QN	QN	QN	QN.	QN
1,3-dichlorobenzene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
1,4-dichlorobenzene	1.79E-02	1.83E-02	QN	ON	QN	Q	QN
1,2-dichlorobenzene	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
Benzyl alcohol	1.79E-02	1.83E-02	Q	ΩN	QN	QN	QN
Bis(2-chloroisopropyl)ether	1.79E-02	1.83E-02	2	QN	ND	QN	QN
2-methylphenol	1.79E-02	1.83E-02	QN	ND	QN	S	QN
Hexachloroethane	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
N-nitroso-di-n-propylamine	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
4-methylphenol	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Nitrobenzene	1.79E-02	1.83E-02	Q	Q	QN	QN	QN
Isophorone	1.79E-02	1.83E-02	QN	QN	QN	9	QN
2-nitrophenol	1.79E-02	1.83E-02	QN	QN	QN	Q	QN

	Sept. Carth	artridge, 5,56-jmm Ball, M855 (M16A2) ** e-74*	M855 (M16A2	E THE SHIP (No.sof rounds.(I));:	f round
	A. A. S. Ash	Number of Items tested =>	ms tested =>	64.51.4	release duration (t).		S seconds
	Net	olosive Weight - N.E	.vv (lbs.),=>	13.86E-03	Unit Concentration (UC):	6.870E-05 g/m²/(g/s)	(s/b)/,w/b
	ATCF	C Firing Test Results1	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
	Average Measured	Daily: Measured	Adiusted	Adiusted Adiusted	Total Mass	Substance Concentration	Substance Friesion
	Actual:	Background	Emission	Emission	Emitted		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	· 🏎 (gramš/tem)	(grams/m³)	(g/item)/sec
2.4-dimethylphenol	1,79E-02	(mg/m) 1 83E-02			CN	S CN	NY:
Bis(2-chloroethoxy)methane	1.79E-02	1.83E-02	Q	2	QN	QV	Q
2,4-dichlorophenol	1.79E-02	1.83E-02	Q	QN	QN	QN	QN
1,2,4-trichlorobenzene	1.79E-02	1.83E-02	QN	Q	QN	QN	QN
Naphthalene	9.20E-03	1.83E-02	1.03E-08	2.66E-06	4.656E-06	6.397E-11	9.312E-07
4-chloroaniline	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
Hexachlorobutadiene	1.79E-02	1.83E-02	ND	ND	QN	QN	QN
4-chloro-3-methylphenol	1.79E-02	1.83E-02	ND	ND	QN	QN	QN
2-methylnaphthalene	1.79E-02	1.83E-02	ND	ND	QN	QN	QN
Hexachlorocyclopentadiene	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
2,4,6-trichlorophenol	1.79E-02	1.83E-02	ND	QN	QN	Q	QN
2,4,5-trichlorophenol	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
2-chloronaphthalene	1.79E-02	1.83E-02	ND	ND	QN	QN	QN
2-nitroaniline	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
Acenaphthylene	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
Dimethylphthalate	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
2,6-dinitrotoluene	1.79E-02	1.83E-02	Q	QN	QN	QN	QN
Acenaphthene	1.79E-02	1.83E-02	2	Q	ND	QN	QN
3-nitroaniline	3.57E-02	3.66E-02	Q	Q	QN	QN	ND
2,4-dinitrophenol	3.57E-02	3.66E-02	Q.	ND	QN	QN	QN
Dibenzofuran	1.79E-02	1.83E-02	N Q	ND	QN	QN	S
2,4-dinitrotoluene	1.79E-02	1.83E-02	DN	ND	QN	QN	Q
4-nitrophenol	3.57E-02	3.66E-02	ND	ND	QN	Q	Q
Fluorene	1.79E-02	1.83E-02	ND	ON	QN	QN	QN
4-chlorophenyl-phenylether	1.79E-02	1.83E-02	QN	ND	ON	QN	QN
Diethylphthalate	1.79E-02	1.83E-02	Q.	ND	QN	ON	QN
4-nitroaniline	3.57E-02	3.66E-02	ΩN	Q N	QN	ON	QN
4,6-dinitro-2-methylphenol	3.57E-02	3.66E-02	QN	Q	QN	QN	QN

	in and a second	National Distriction (1997)		* 00 C	rejease duration (t):	2	seconds
by the contract of the contrac			.vv. (IIQS:) = 2	3.86E-03	3.86E-03	(8,870E-05 g/m²/(g/s	g/m²/(g/s),
	ပ	Firing Test Results					
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
	Actual	Background	Emission	Emission	Emitted		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m³)	(a/item)/sec
	(mg/m³)	(mg/m³)	(lb/ftem);	(Ib/Ib NEW)		CONC	ER,
N-nitrosodiphenylamine(1)	1.79E-02	1.83E-02	Q.	QN	QN	CN	CN
4-bromophenyl-phenylether	1.79E-02	1.83E-02	QN	QN	QN	QN	S
Hexachlorobenzene	1.79E-02	1.83E-02	QN.	Q	QN	2	QN
Pentachlorophenol	3.57E-02	3.66E-02	QN	Q	QN	Q	QN
Phenanthrene	1.79E-02	1.83E-02	QN	Q	QN	ND	QN
Anthracene	1.79E-02	1.83E-02	QN	QN	QN	ND	QN
Ui-n-butyiphthalate	1.05E-02	1.83E-02	1.15E-08	2.97E-06	5.205E-06	7.151E-11	1.041E-06
Fluoranthene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Pyrene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Butylbenzylphthalate	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
Benzo(a)anthracene	1.79E-02	1.83E-02	DN	QN	QN	QN	QN ON
Cnrysene	1.79E-02	1.83E-02	Q	QN	QN	Q	QN
3,3-dichlorobenzidine	1.79E-02	1.83E-02	QN	QN	QN	Q	Q
Bis(2-ethylhexyl)phthalate	3.93E-02	5.68E-02	QN	QN	QN	QN	ND
Di-n-octylphthalate	1.79E-02	1.83E-02	Q	QN	QN	QN	QN
Benzo(b)fluoranthene	1.79E-02	1.83E-02	ND	QN	QN	Q	Q.
Benzo(k)fluoranthene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
Benzo(a)pyrene	1.79E-02	1.83E-02	ON	ND	QN	Q	QN
Indeno(1,2,3-cd)pyrene	1.79E-02	1.83E-02	QN	ON	QN	Q.	ND
Dibenz(a,h)anthracene	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
Benzo(g,h,i)perylene	1.79E-02	1.83E-02	QN	QN	QN	Q	QN
SVOC Tentatively Identified Compounds (TICs)	npounds (TICs)						
TO-13 (PAHS)							
Naphthalene	8.84E-03	1.15E-03	8.73E-09	2.26E-06	3.961E-06	5.442E-11	7.922E-07
Acenaphthylene	3.39E-04	1.83E-05	3.79E-10	9.82E-08	1.719E-07	2.362E-12	3.438E-08
Acenaphthene	6.61E-05	1.83E-05	7.38E-11	1.91E-08	3.345E-08	4.596E-13	6.690E-09
Fluorene	1.88E-04	1.83E-05	2.10E-10	5.43E-08	9.511E-08	1.307E-12	1.902E-08
Phenanthrene	2.95E-04	4.21E-05	2.88E-10	7.46E-08	1.306E-07	1.795E-12	2.613E-08

Table B-4: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 200 meter location

	Cartr	artridge, 5:56-mm Ballt M855 (M18A2)	M855 (M16A2		No. of frounds (i)	- Puncil Land	round
		Number of items tested => 100000000000000000000000000000000000	ms tested =>	3,045	release our attor (I)		Nin 5 seconds
	VENDA	אומפואם אאבולוווי יאים	YAY. (IDSC)	3.80E=03.4	UNIT CONCENTRATION (UC)	l: <-: 6:87.0E-05 g/m /(g/s)	g/m /(g/s)
	ATCF	C Firing Test Results	Section of the second				
	Average	Tr Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Meäsured	Adjusted	Adiüsted	i bf Substance	Concentration	Emission
	Actual	Background	Emission	Emission			Rate
	Concentration	Concentration	Factor (EF)	Factor	(arams/fiem)	(dfams/m)	(n/itami/sec
	(mg/m³)	(ரித்நி	(lb/ftem)	(Ib/Ib/NEW)		CÔNC	ER
Anthracene	4.73E-05	1.83E-05	5.25E-11	1.36E-08	2.383E-08	3.274E-13	4.766E-09
Fluoranthene	4.02E-04	1.83E-05	4.47E-10	1.16E-07	2.028E-07	2.786E-12	4.055E-08
Pyrene	1.02E-03	1.83E-05	1.13E-09	2.93E-07	5.132E-07	7.052E-12	1.026E-07
Benzo(a)anthracene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	1.552E-12	2.260E-08
Chrysene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	1.552E-12	2.260E-08
Benzo(b)fluoranthene	3.13E-04	1.83E-05	3.49E-10	9.05E-08	1.584E-07	2.177E-12	3.169E-08
Benzo(k)fluoranthene	1.55E-04	1.83E-05	1.73E-10	4.48E-08	7.836E-08	1.077E-12	1.567E-08
Benzo(e)pyrene	4.38E-04	1.83E-05	4.87E-10	1.26E-07	2.211E-07	3.038E-12	4.422E-08
Benzo(a)pyrene	3.93E-04	1.83E-05	4.39E-10	1.14E-07	1.993E-07	2.738E-12	3.985E-08
Indeno(1,2,3-cd)pyrene	4.64E-04	1.83E-05	5.19E-10	1.34E-07	2.352E-07	3.232E-12	4.705E-08
Dibenz(a,h)anthracene	4.02E-05	1.83E-05	4.49E-11	1.16E-08	2.037E-08	2.799E-13	4.074E-09
Benzo(g,h,i)perylene	1.09E-03	1.83E-05	1.21E-09	3.14E-07	5.503E-07	7.561E-12	1.101E-07
Dioxins and Furans			A Chairman		The second second second second		
2378-TCDD	5.26E-09	5.29E-09	QN	ND	QN	QN	
12378-PECDD	3.56E-09	3.52E-09	QN	ND	QN	Q	QN
123478-HXCDD	2.35E-09	2.45E-09	QN	ND	QN	QN	QN
123678-HXCDD	2.44E-09	2.64E-09	QN	QN	QN	QN	QN
123789-HXCDD	7.70E-09	8.17E-09	QN	QN	QN	QN	QN
1234678-HPCDD	5.15E-09	6.59E-09	S	QN	ND	QN	QN
OCDD	7.93E-08	1.14E-07	Ω	ND	ND	QN	ΩN
2378-TCDF	3.94E-09	3.60E-09	Q	ND	ND	QN	QN
12378-PECDF	5.11E-09	5.21E-09	QN	ND	ND	QN	QN
23478-PECDF	4.17E-09	3.87E-09	Q	ND	ND	QN	QN
123478-HXCDF	2.72E-09	2.96E-09	QN	ND	ND	QN	QN
123678-HXCDF	2.79E-09	3.09E-09	QN	ND	ON	QN	QN
123789-HXCDF	2.77E-09	3.06E-09	Q	ND	ND	QN	QN
234678-HXCDF	1.41E-09	1.60E-09	Q	ND	ON	QN	QN
1234678-HPCDF	1.45E-09	2.00E-09	Q	ND	ON	QN	QN

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	Cart	Cartridge, 5:56-mm Ball, M855 (M16A2)	M855 (M16A)	(No. of rounds (I)	punou It	round
		Number of ite	Number of items tested =>	15	rélease duration (t): r	9	Spiconids 5
	Net Ex	et Explosive Weight. N.E.W. (lbs.) =>	.W. (lbs.) =>	3.88E:03	3.88E:03 Urife Concentration (UC)		g(m ³ /(g/s)
	ATC	ATC Firing Test Results					
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
	Actual	Backgröund	Emission	Emišslon	Emitted		Rafe
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m²)	(g/item)/sec
	(mg/m²)	. (ເກີຍ/ເກີ)	(lb/item).	(Ib/Ib/NEW)		CONC	ER,
1234789-HPCDF	1.08E-09	1.16E-09	QN	QN	QN	ND	QN
OCDF	3.67E-09	3.30E-09	8.50E-16	2.20E-13	3.857E-13	5.299E-18	7.713E-14
Energetics							
Nitrobenzene	3.48E-03	NA	QN	QN	QN	ON	QN
2-Nitrotoluene	3.48E-03	AN	QN	Q	QN	QN	QN
3-Nitrotoluene	3.48E-03	NA	QN	QN ON	QN	QN	QN
4-Nitrotoluene	3.48E-03	NA	QN	QN	QN	QN	QN
Nitroglycerine	3.48E-03	NA	QN	Q.	QN	QN	QN
1,3-Dinitrobenzene	3.48E-03	NA	ND	QN	QN	2	QN
2,6-Dinitrotoluene	3.48E-03	NA	ON	QN	QN	Q	QN
2,4-Dinitrotoluene	3.48E-03	NA	ND	QN	QN	2	QN
1,3,5-Trinitrobenzene	3.48E-03	NA	ND	QN	QN	2	QN
2,4,6-Trinitrotoluene	3.48E-03	NA	ON	QN	QN	QV	QN
RDX	3.48E-03	NA	ND	QN	QN	QN	QN
4-Amino-2,6-Dinitrotoluene	3.48E-03	NA	ND	QN	QN	Q	Q.
2-Amino-4,6-Dinitrotoluene	3.48E-03	ΝΑ	QN	QN	ND	QV	QN
Tetryl	3.48E-03	NA	QN	QN	QN	QN	Q
HMX	6.96E-03	NA	ND	QN	QN	S	QN
Pentaerythritoltetranitrate	6.96E-03	NA	ND	QN	ND	Q	Q
Dibutyl phthalate	1.74E-01	NA	QN	QN	QN	QN	Q
Dioctyl phthalate	1.74E-01	NA	ON	QN	QN	QN	QN
Diphenylamine	8.70E-02	NA	ND	QN	QN	QN	Q.
Footnotes:							

ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study) NA = Not Applicable

ND = Not Detected

Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

	Gart Nei	ridge, 5:56-mm Ball, Nümber of Ite blosive Weight∵ N.E	M855 (M16A ams rested => \$(7) (18s) =\$) - () This is a second of the second of th	eartridge, 5:56-mm Ball, M855 (M16A1) (instrumed No of rounds (I) (instrument Number of Items tested ⇒ (Number of Items tested ⇒ (Number of Items tested ⇒ (Number of Items)) = (Number of Items) = (Number of Items)	Amarian () Seconds	round seconds
		ATC Firing Test Results 1.	Results1				C in a
	7.02	/Dally	Average		Total Mass	Substance	Substance
		Measuled Baduda	- Agjusted Emission	Adjusted	of Substance	Goncentration	Emission
Compound	ပ	Concentration	Emission Factor (EF)	Facility		AMESTICAL STATES	Rate
		(wygm)	(lb/item)	(IB/Ib)NEV		CONC	(g/item)/sec
Permanent Gases				1 P. S. S. S.			
Ammonia (NH3)	1.75E+01	NA	2.84E-05	7.36E-03	14.188e.	1.000E-07	2 576F-03
Carbon Dioxide (CO2)	4.85E+02	NA	7.87E-04	2.04E-01	3.570E-01	2.772E-06	7.140E-02
Carbon Monoxide (CO)	8.90E+02	NA	1.44E-03	3.74E-01	6.550E-01	5.087E-06	1.310E-01
Oxides of Nitrogen (NOx)	4.35E+01	NA	7.05E-05	1.83E-02	3.200E-02	2.485E-07	6.400E-03
Sulfur Dioxide (SO2)			ND	QN	QN	QN	QN
Acid Gases		4					
Hydrogen Fluoride	2.25E-01	2.10E-01	ND	ND			QN
Hydrogen Chloride	2.15E-01	2.00E-01	QN	QN	QN	QN	QN
Hydrogen Bromide	2.15E-01	2.00E-01	ND	QN	QN	QN	QN
Nitric Acid	2.15E-01	2.00E-01	ND	QN	QN	QN	Q
Phosphoric Acid	2.15E-01	2.00E-01	ND	QN	QN	QN	QN
Sulfuric Acid	2.40E-01	2.00E-01	4.26E-07	1.11E-04	1.935E-04	1.502E-09	3.869E-05
Cyanide				A Section of the second			
Particulate Cyanide	9.30E-02	1.30E-02	9.29E-08	2.41E-05	4.215E-05	3.273E-10	8.430E-06
Hydrogen Cyanide	1.04E+01	1.90E-02	1.80E-05	4.66E-03	8.160E-03	6.337E-08	1.632E-03
Tario	L 200 7			1. 4. 1. 4.			
Podianista Matter / 10	1.99E+01	AA	3.47E-05	8.99E-03	1.574E-02	1.222E-07	3.147E-03
Darticulate Matter / 2 Emission	4.645.04	YA :	3.57E-05	9.26E-03	1.620E-02	1.258E-07	3.240E-03
Matale	1.01=+0.1	NA	2.64E-05	6.84E-03	1.198E-02	9.304E-08	2.396E-03
Aliminim	1 205 04	7 44 7	1 2 3				Sept. Substanto Sept.
Action	1.29E-01	7.41E-02	1.04E-07	2.70E-05	4.727E-05	3.671E-10	9.455E-06
Antimony	7.74E-01	4.35E-02	1.35E-06	3.49E-04	6.115E-04	4.749E-09	1.223E-04
Arsenic	1.0/E-02	1.09E-02		QN	ON	ND	Q
barum	2.26E-01	4.35E-02	3.94E-07	1.02E-04	1.786E-04	1.387E-09	3.571E-05
Definition	4.2/E-02	4.35E-02	Q	ND	QN	QN	Q
Cadmum	4.2/E-02	4.35E-02	QN	QN	QN	ND	QN
Calcium	3.05E-01	1.24E-01	3.31E-07	8.57E-05	1.500E-04	1.165E-09	3.000E-05

				イング	i	ないから かんかん かんかん かんかん	
	Net Ex	Explosive Weight- N.E.W (lbs.) =>	E'W. (lbs.) =>		Unit Cofficent atton (I)	4.883E	5 seconds
		ATC Firing Test Results1	Results1				
	Average	Daily	Averade	Average	Total Mass	Silbetance	
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	400
	Actual	Background	- Emission ⁴	Emission	Emitted		
Compound	Concentration	Concentration =	Factor (EF)	Factor	(drams/item)	(arams/m3	(d/illam)/sec
	(mg/m³)	(mg/m³)	(ib/item)	(Ib/lb/NEW)		CONC	ER,
Chromium	4.27E-02	4.35E-02	QN	ND	QN	CN	CIN
Cobalt	4.27E-02	4.35E-02	QN	QN	QN	2 2	
Copper	7.66E+00	7.46E-02	1.32E-05	3.42E-03	5.992E-03	4 653E-08	1 108E 02
Lead	2.09E+00	4.35E-02	3.63E-06	9.41E-04	1.646E-03	1.279F-08	3 293E-03
Magnesium	4.27E-02	4.35E-02	QN	QN	QN	QN	NO
Manganese	4.27E-02	4.35E-02	QN	Q	QN	Q	S
Nickel	4.27E-02	4.35E-02	QN	S	QN	QV	CN
Selenium	1.07E-02	1.09E-02	QN	Q	QN	QN	CN
Silver	4.27E-02	4.35E-02	QN	S	QN	QN	S
I hallium	4.27E-02	4.35E-02	QN	2	ND	GN	S
Vanadium	4.27E-02	4.35E-02	QN	QN	QN	CZ	2 2
Zinc	9.96E-01	4.35E-02	1.73E-06	4.49E-04	7.867E-04	6.109F-09	1 573E-04
TO-11 Garbonyls							1:0105-01
Formaldehyde	3.07E-02	1.23E-01	5.34E-08	1.38E-05	2.423E-05	1 882F-10	4 RAGE-OR
Acetaldehyde	1.80E-01	1.80E-01	Q	QN	QN	CN	ND
Acetone	1.19E+00	1.19E+00	QN	Q.	QN	QN	CZ
Acrolein	2.29E-01	2.29E-01	ON	QN	QN	2	CN
Proprionaldenyde	5.94E-03	2.37E-01	1.04E-08	2.70E-06	4.718E-06	3.664E-11	9.435E-07
Crotonaldenyde	2.87E-01	2.87E-01	QN	QN	ND	Q	QN
Boarddokyd	2.95E-01	2.95E-01	Q	Q	QN	Q	QN
benzaldeliyue	4.34E-01	4.34E-01	Q	Q	QN	Q	QN
Isovaleraldenyde	3.52E-01	3.52E-01	Q.	ND	QN	QN	QN
Valeraldenyde	3.52E-01	3.52E-01	Q	Q	QN	QN	QN
O,III,p-1 didaldenyde	4.91E-01	4.91E-01	2	Q	QN	ND	QN ON
2 & Dimothylborzoldobyd	4.10E-01	4.10E-01	Q	Q	ND	QN.	QN
Z,J-Dilletinjibelizalderijde	4.10E-U1	4.10E-01	Q	Q	QN	QN	QN
Drongno	CO LOO						
Liobelle	4.99E-02	3.44E-03	8.17E-08	2.12E-05	3.704E-05	2.877E-10	7.409E-06

Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

	Cartr * Net Ex	artridge, 5.56-mm Ball , M855 (M16A1)	M855 (M16A1 9ms tested => =\W. (IBs) =>		No. of rounds (I) The state of the state of rounds felease duffills (I) the state of seconds (I) the second (I) the state of seconds (I) the second (I) the		round Séconds g/m²/(g/s)
		. ATC Firing Test Results!	Results.		24	93.	
	۵	Daily	Average	Average	Total Mass	Silbstance	Substance
	Measured	Measured	Adjüsted	Adjusted	of Substance	Concentration	Emission
	Actual	Background	Emission	Emission			Râte
Çomponud	Concentration	Concentration	Factor (EF)	Factor	(graffis/tem)	(grams/m³)	(g/item)/sec
	, (mg/m³), ·	(mg/m³)	(lb/item):	(Ib/Ib/NEW)		CONC	, ER,
Dichlorodiflouromethane	2.97E-03	2.97E-03	3.67E-10	9.50E-08	1.664E-07	1.292E-12	3.327E-08
Chlorodifluoromethane	3.54E-03	3.54E-03	QN	Q	QN	2	QN
Freon 114	6.99E-03	6.99E-03	QN	QN	QN.	Q	QN
Chloromethane	1.45E-03	2.07E-03	2.52E-09	6.52E-07	1.142E-06	8.868E-12	2.284E-07
Vinyl Chloride	2.56E-03	2.56E-03	QN	QN	QN	Q.	QN
1,3-Butadiene	4.42E-03	2.21E-03	7.66E-09	1.98E-06	3.473E-06	2.697E-11	6.946E-07
Bromomethane	3.88E-03	3.88E-03	ND	QN	QN	QN	QN
Chloroethane	2.64E-03	2.64E-03	QN	QN	QN	QV	QN
Dichlorofluoromethane	4.21E-03	4.21E-03	QN	QN	QN	QV	QN.
Trichloroflouromethane	1.12E-03	1.69E-03	QN	QN	QN	Q	QN
Pentane	2.36E-03	5.90E-03	QN	QN	QV	Q	Q
Acrolein	2.29E-03	2.29E-03	ND	QN	QN	9	QN
1,1-Dichlorethene	4.05E-03	4.05E-03	QN	QN	Q	QN	QN
Freon 113	7.68E-03	7.68E-03	ND	QN	ON.	Q.	ND
Acetone	9.98E-01	5.23E-01	8.87E-07	2.30E-04	4.022E-04	3.124E-09	8.045E-05
Methyl lodide	5.81E-03	5.81E-03	QN	QN	QN	Q	QN
Carbon Disulfide	3.11E-03	3.11E-03	Q	QN	QN	QN	ND
Acetonitrile	1.17E-01	1.68E-03	2.04E-07	5.28E-05	9.236E-05	7.172E-10	1.847E-05
3-Chloropropene	3.13E-03	3.13E-03	Q	QN	ON	Q	QN
Methylene Chloride	1.27E-01	9.03E-02	7.37E-08	1.91E-05	3.344E-05	2.597E-10	6.687E-06
tert-Butyl Alcohol	3.03E-03	3.03E-03	5.20E-09	1.35E-06	2.358E-06	1.831E-11	4.717E-07
Acrylonitrile	3.26E-02	2.17E-03	5.68E-08	1.47E-05	2.578E-05	2.002E-10	5.156E-06
trans-1,2-Dichloroethene	3.96E-03	3.96E-03	9	QN	QN	Q	QN
Methyl t-Butyl Ether	1.08E-03	1.08E-03	1.67E-10	4.33E-08	7.585E-08	5.890E-13	1.517E-08
Hexane	6.34E-01	3.31E-01	5.65E-07	1.46E-04	2.562E-04	1.989E-09	5.123E-05
1,1-Dichloroethane	3.97E-03	3.97E-03	9	QN	ON	QN	QN
Vinyl Acetate	3.52E-03	3.52E-03	Q	QN	ON	S	QN
cis-1,2-Dichloroethene	3.96E-03	3.96E-03	ND	QN	QN	QN	QN
		22 - 22	31.	2	2	1	מאו

Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

Net Explosive	The state of the s				A CALL OF THE PARTY OF THE PART	
Average	Not explicate the Notice of th		20	release duration (t):	· · · · · · · · · · · · · · · · · · ·	seconds
Average Attending Test Residual Actual Concentration 3.52E-03 3.52E-03 3.52E-03 3.52E-03 4.68E-03 4.66E-03 4.66E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.06E-03 6.70E-03 4.67E-03 4.67E-03 4.67E-03 4.67E-03 5.46E-03 6.78E-03 4.10E-03 4.10E-03 6.78E-03 4.10E-03 6.78E-03 7.68E-03	HAEL EXPLOSIVE WEELS IN E.		3.86E-03	Unit Concentration (UC):	3:883E-05 g/m /(g/s)	(s/b)/, w/b
Average Dally. Measured Measured Actual Background Concentration Concentration T.21E-03 3.06E-03 6.29E-03 4.88E-03 6.29E-03 4.05E-03 4.67E-03 4.05E-03 4.67E-03 4.05E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.06E-03 6.70E-03 4.67E-03 4.67E-03 4.67E-03 4.67E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 4.10E-03 6.78E-03 4.1		esults!				TO THE PROPERTY OF THE PARTY OF
Measured Measured Measured Actual Background Concentration Concentration 2.95E-03 2.95E-03 2.95E-03 2.95E-03 7.21E-03 3.60E-03 7.21E-03 3.60E-03 4.88E-03 4.88E-03 1.64E-03 5.46E-03 6.29E-03 4.05E-03 1.64E-03 5.46E-03 6.29E-03 4.05E-03 4.09E-03 4.05E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 6.70E-03 6.70E-03 6.70E-03 4.67E-03 6.70E-03 4.67E-03 6.78E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 7.68E-03		Average	Average	Total Mass	S. Defance	i
Actual Background (mg/m²) (mg/m²) 2.95E-03 2.95E-03 7.21E-03 3.60E-03 7.21E-03 3.60E-03 4.88E-03 4.88E-03 6.29E-03 4.88E-03 1.64E-03 5.46E-03 6.29E-03 4.05E-03 4.09E-03 4.05E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 7.11E-03 7.11E-03 7.11E-03 4.09E-03 4.09E-03 4.05E-03 4.09E-03 4.05E-03 4.10E-03 4.05E-03 6.70E-03 6.70E-03 7.14E-03 4.67E-03 7.16E-03 4.67E-03 7.68E-03 6.78E-03 8.52E-03 7.68E-03 8.52E-03 7.68E-03 7.68E-03 7.68E-03		Adjusted	Adjusted	of Silbstance	Political de la Company	Substance
Concentration Concentration 2.95E-03 2.95E-03 2.95E-03 2.95E-03 7.21E-03 3.60E-03 7.21E-03 3.52E-03 4.88E-03 4.88E-03 4.88E-03 4.88E-03 4.67E-03 4.05E-03 4.67E-03 4.05E-03 4.67E-03 4.05E-03 4.09E-03 4.09E-03 4.10E-03 4.10E-03 4.54E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 4.10E-03 4.10E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 4.10E-03 7.68E-03 7.68E-03		Emission	Emission	EMITTER		ETTISSION Doto
(mg/m²) (mg/m²) 2.95E-03 2.95E-03 7.21E-03 3.60E-03 7.21E-03 3.60E-03 7.21E-03 3.60E-03 4.88E-03 4.88E-03 4.88E-03 4.88E-03 6.29E-03 4.05E-03 8.09E-03 4.05E-03 4.67E-03 4.05E-03 4.09E-03 4.09E-03 4.10E-03 4.67E-03 5.46E-03 6.76E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03	·	Factor (EF)	Factor	And Mc Maria	(A. A. A. 3)	nale.
2.95E-03 2.95E-03 1 7.21E-03 3.60E-03 1 7.21E-03 3.60E-03 1 7.21E-03 3.60E-03 1 7.21E-03 3.60E-03 2 7.21E-03 4.88E-03 2 7.21E-03 4.05E-03 1 7.21E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 3.60E-03 3.60E-03 4.10E-03 1.40E-03 4.54E-03 4.54E-03 6.78E-03 7.68E-03 7.68E-03 7.68E-03 7.68E-03		(lb/item)	Ib/Ib/NEW		ONCO.	(g/item)/sec
7.21E-03 3.60E-03 1 3.52E-03 3.52E-03 3.52E-03 3.52E-03 3.52E-03 4.88E-03 6.29E-03 6.29E-03 6.29E-03 6.29E-03 4.05E-03 1.23E-03 4.09E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.08E-03 7		QN	CN	CIN		
3.52E-03 3.52E-03 4.88E-03 4.88E-03 6.29E-03 6.29E-03 6.29E-03 6.29E-03 7.51E-01 1.92E-03 4.67E-03 4.67E-03 1.23E-03 4.67E-03 4.88E-03 4.67E-03 4.88E-03 4.09E-03 4.09E-03 4.09E-03 5.06E-03 4.09E-03 6.70E-03 4.09E-03 7.11E-03 7.11E-03 7.11E-03 7.11E-03 1.40E-03 4.09E-03 4.10E-03 4.67E-03 2.64E-03 2.64E-03 4.54E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 4.10E-03 7.68E-03 7.68E-03	-	1.26E-08	3 26F-06	5 7085-06	14 A22F 44	ON
4.88E-03 4.88E-03 5.46E-03 2 1.64E-03 5.46E-03 2 6.29E-03 6.29E-03 1 8.09E-03 4.05E-03 1 4.67E-03 4.67E-03 1 4.67E-03 4.67E-03 1 4.08E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 2 7.11E-03 7.11E-03 2 7.16E-03 4.09E-03 2 6.70E-03 4.09E-03 2 4.10E-03 4.67E-03 2 4.54E-03 4.67E-03 2 6.78E-03 6.78E-03 2 4.10E-03 4.10E-03 4.10E-03 8.52E-03 7.68E-03 7.68E-03		QN	S	ON ON	4.433E-11	1.142E-06
1.64E-03 5.46E-03 2 6.29E-03 6.29E-03 1 8.09E-03 6.29E-03 1 3.51E-01 1.92E-03 6 4.67E-03 4.67E-03 1 1.23E-03 1.23E-03 1 4.09E-03 4.09E-03 4.09E-03 1 7.11E-03 7.11E-03 7.11E-03 1 8.60E-03 6.70E-03 6.70E-03 1 1.40E-03 4.67E-03 6.70E-03 1 4.40E-03 4.67E-03 6.70E-03 6.78E-03 7.68E-03 7.68E-03 7.68E-03 7.68E-03 7.68E-03		QN	GN			ON S
6.29E-03 6.29E-03 1 8.09E-03 4.05E-03 1 3.51E-01 1.92E-03 6 4.67E-03 4.67E-03 1 1.23E-03 1.23E-03 1 4.88E-03 4.88E-03 4.09E-03 1 4.09E-03 4.09E-03 1 7.11E-03 7.11E-03 3.60E-03 6.70E-03 6.70E-03 1 4.10E-03 4.67E-03 2.64E-03 1 4.54E-03 4.67E-03 6.76E-03 6.76E-03 6.76E-03 6.76E-03 1 4.10E-03 4.10E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03 7.68E-03 7.68E-03		2.81E-09	7.28E-07	1 273E-06	0 8805 12	ND 2 547F 07
8.09E-03 4.05E-03 3.51E-01 1.92E-03 4.67E-03 4.67E-03 1.23E-03 1.23E-03 4.88E-03 4.88E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 3.60E-03 6.70E-03 6.70E-03 4.67E-03 1.88E-02 2.64E-03 4.67E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		QN ON	2	CN	ND	4.34/E-0/
3.51E-01 1.92E-03 4.67E-03 4.67E-03 4.67E-03 4.67E-03 4.88E-03 4.88E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 3.60E-03 6.70E-03 4.10E-03 4.10E-03 4.10E-03 6.78E-03 7.68E-03 7.68E-03 7.68E-03 7.68E-03		1.41E-08	3.66E-06	6 411E-06	A 070E 11	1 2027 OC
4.67E-03 4.67E-03 1.23E-03 1.23E-03 4.88E-03 4.88E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 7.11E-03 7.11E-03 3.60E-03 4.09E-03 4.10E-03 4.10E-03 4.54E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03 7.68E-03 7.68E-03		6.11E-07	1.58E-04	2.769F-04	2 151E 00	1.262E-Ub
1.23E-03 1.23E-03 4.88E-03 4.88E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 7.00E-03 3.60E-03 6.70E-03 4.10E-03 1.88E-02 2.64E-03 4.54E-03 4.54E-03 6.76E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03 7.68E-03 7.68E-03		Q	2	CN	E. 131L-03	3.338E-U3
4.88E-03 4.88E-03 4.09E-03 4.09E-03 4.62E-03 4.09E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 3.60E-03 3.60E-03 6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.88E-02 2.64E-03 4.67E-03 4.67E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		1.90E-10	4.93E-08	8 622F-08	R GORE 12	4 724F 00
4.09E-03 4.09E-03 4.62E-03 4.62E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 3.60E-03 3.60E-03 6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.88E-02 2.64E-03 4.54E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03 7.68E-03 7.68E-03		QV		GN	0.0305-13	1.724E-US
4.62E-03 4.62E-03 4.09E-03 4.09E-03 7.11E-03 7.11E-03 3.60E-03 3.60E-03 6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.40E-03 4.67E-03 4.54E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03		Q	QN		2 2	2
4.09E-03 4.09E-03 7.11E-03 7.11E-03 3.60E-03 3.60E-03 6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.88E-02 2.64E-03 1.40E-03 4.67E-03 4.54E-03 4.54E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 7.68E-03		Q	9		2 2	Q C
7.11E-03 7.11E-03 3.60E-03 3.60E-03 6.70E-03 6.70E-03 1.88E-02 2.64E-03 1.40E-03 4.67E-03 4.54E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		QN.	9	S	2 2	ON CA
3.60E-03 3.60E-03 6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.40E-03 4.67E-03 4.54E-03 4.67E-03 4.67E-03 4.67E-03 6.78E-03 6.78E-03 6.78E-03 6.78E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		QN	QN	CN	C N	2 2
6.70E-03 6.70E-03 4.10E-03 4.10E-03 1.88E-02 2.64E-03 1.40E-03 4.67E-03 4.54E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 8.52E-03 7.68E-03 7.68E-03		QN	2	QN.	2 2	2 2
4.10E-03 4.10E-03 1.88E-02 2.64E-03 1.40E-03 4.67E-03 4.54E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 4.10E-03 8.52E-03 7.68E-03		QN	2	QN	2 2	ON CIN
1.88E-02 2.64E-03 1.40E-03 4.67E-03 4.54E-03 4.54E-03 4.67E-03 4.67E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		ND	Q	QN	QN	2 2
1.40E-03 4.67E-03 4.54E-03 4.54E-03 4.67E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 4.10E-03 7.68E-03 7.68E-03	-	2.86E-08	7.42E-06	1.298E-05	1.008E-10	2.597E-06
4.54E-03 4.54E-03 4.67E-03 4.67E-03 5.46E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 4.10E-03 8.52E-03 8.52E-03 7.68E-03 7.68E-03		2.40E-09	6.23E-07	1.090E-06	8.468E-12	2.181E-07
ne 5.46E-03 4.67E-03 6.78E-03 6.78E-03 4.10E-03 4.10E-03 ane 8.52E-03 7.68E-03		QN	QN	QN	QV	QN
ne 5.46E-03 5.46E-03 6.78E-03 6.78E-03 4.10E-03 4.10E-03 ane 8.52E-03 8.52E-03 7.68E-03 7.68E-03		QN	ON	QN	Q	S
6.78E-03 6.78E-03 4.10E-03 4.10E-03 ane 8.52E-03 8.52E-03 7.68E-03 7.68E-03		QN	QN	QN	QN	S
ane 8.52E-03 8.52E-03 7.68E-03		QN	QN	QN	Q	GN
ane 8.52E-03 8.52E-03 7.68E-03		Q	QN	QN	QN	QN
7.68E-03 7.68E-03		Q	Q	QN	QN	QN
100		Q	Q	QN	QN	QN
Gillotobenzene 4.60E-03 4.60E-03 ND		Q	ND	QN	QN	CN

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Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

	Catri X.Net Ex	artridge, 5:56-mm Ball⊁M855 (M18A1) <u>11- pr. 181</u> : tNumber of liems tested ⇒ <u>1420 + m</u> Explosive (Veight - N.EW (BS.) ⇒ 3186E±034	M855 (M16A) ms tested => M* (Bs) =>		Notice to the second of the se	The factor of the country of the cou	round Secolids g/m²/(g/s)
		. ATC Elhing Test Results	Results 1			Wanter o	
	Average	r Dally Measured	Average Adjusted	Average Adlusted	Total Mass. of Substance	Substance Concentration	Substance
	127 Y	Bačkgröund	EHISSION	Emission	. Enilited		Rate
Combound	Concentration (mg/m3)	Concentration	Factor (EF) (Ib/liem)	Factor : (Ib/Ib NEW)	(grams/item)	(grams/m²) CONC	(g/ltefn)/sec ER;
1,1,1,2-Tetrachloroethane	6.87E-03	6.87E-03	QN	ND	ND	QN	QN
Ethylbenzene	1.52E-03	4.34E-03	2.65E-09	6.86E-07	1.201E-06	9.324E-12	2.401E-07
m/p-Xylene	3.69E-03	1.74E-03	3.61E-09	9.35E-07	1.636E-06	1.270E-11	3.272E-07
o-Xylene	2.61E-03	4.34E-03	4.51E-09	1.17E-06	2.045E-06	1.588E-11	4.090E-07
Styrene	3.41E-03	4.26E-03	5.92E-09	1.54E-06	2.687E-06	2.087E-11	5.374E-07
Bromoform	1.03E-02	1.03E-02	ND	ND	QN	ON	QN
Cumene	4.92E-03	4.92E-03	QN	ND	ON	QN	ΔN
1,1,2,2-Tetrachlorethane	6.87E-03	6.87E-03	QN	NΩ	ON	ON	QN
1,2,3-Trichloropropane	6.03E-03	6.03E-03	ND	ND	QN	QN	QN
Bromobenzene	6.42E-03	6.42E-03	QN	ND	QN	QN	QN
4-Ethyltoluene	1.97E-03	4.92E-03	3.37E-09	8.74E-07	1.530E-06	1.188E-11	3.059E-07
1,3,5-Trimethylbenzene	4.92E-03	4.92E-03	QN	ND	ND	QN	QN
Alpha Methyl Styrene	4.83E-03	4.83E-03	ND	ND	ON	QN	QN
1,2,4-Trimethylbenzene	2.46E-03	4.92E-03	4.22E-09	1.09E-06	1.912E-06	1.485E-11	3.824E-07
1,3-Dichlorobenzene	6.01E-03	6.01E-03	QN	ND	QN	QN	QN
1,4-Dichlorobenzene	6.01E-03	6.01E-03	QN	Ω	ON	QN	QN
Benzyl Chloride	5.18E-03	5.18E-03	QN	Ω	ND	ND	QN
1,2-Dichlorobenzene	6.01E-03	6.01E-03	QN	NΩ	ND	ND	QN
Hexachlorethane	9.68E-03	9.68E-03	QN	QN	QN	Q	QN
1,2,4-Trichlorobenzene	7.42E-03	7.42E-03	ND	ND	ND	ND	QN
Hexachlorobutadiene	1.07E-02	1.07E-02	ND	ND	ND	QN	QN
VOC Tentatively Identified Compounds (TICs)							
Hydrocarbons : 1					医乳腺素 化二氯甲基甲基		
Methane	6.40E+00	1.47E+00	8.80E-06	2.28E-03	3.989E-03	3.098E-08	7.979E-04
Ethylene	3.76E-01	2.29E-02	6.56E-07	1.70E-04	2.975E-04	2.311E-09	5.951E-05
Acetylene	5.27E-02	2.13E-02	9.18E-08	2.38E-05	4.164E-05	3.234E-10	8.328E-06
Ethane	2.13E-01	2.46E-02	3.73E-07	9.67E-05	1.692E-04	1.314E-09	3.384E-05
Propylene	5.59E-02	3.44E-02	9.76E-08	2.53E-05	4.429E-05	3.439E-10	8.857E-06

Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

	TO TON	Number of items tested => Exclosive Weight N P.W. (Ite.) =>	Number of items tested == Waldham Intervented	20 1		* *	spucoes
	White att 52 Mean	The Single Property	Carried State		Unit concentration (UC)	3.883E-05	(g/g)/, w/g
		ATC Eiring, Test Results	Results1				
	Average Measured	Daily	Average	Average	TotalMass	Substance	Substance
	Actual	Background	Emission	Fmission	OI SUDSTAINE FAITHER	Concentration	Emission
Compound	Concentration	Concentration	Factor (EF)	Factor	Calling (Acam)	8 1 3	Kate
	(mg/m³)	(ш/вш).	(lb/ftem)	(Ib/Ib/NEW)		COUC	(g/item)/sec
Propane	3.61E-02	3.61E-02	ND	QN	ON	UN	
Propyne	3.20E-02	3.20E-02	Q	Q		2 2	ON S
Isobutane	4.75E-02	4.75E-02	QV	2		2 2	
1-Butene/Isobutylene	4.59E-02	4.59E-02	QN	Q			
1,3-Butadiene/butane	6.88E-02	6.88E-02	QN	QN	QN		2 2
cis-butene	4.59E-02	4.59E-02	QV	Ð	QN	S	2 2
1-Butyne	4.59E-02	4.59E-02	Q.	2	CN		2 2
trans-Butene	4.59E-02	4.59E-02	QN	2	CX	2 2	2 2
2-Butyne	4.42E-02	4.42E-02	QV	Q	CN	2 2	2 2
n-Pentane	5.90E-02	5.90E-02	Q	Q.	CN	2 2	2 2
n-Hexane	3.93E-01	2.71E-01	2.38E-07	6.18E-05	1 0825-04	8 404E 40	2 4645 05
SVOCS						0:4015-10	Z.104E-U3
N-nitrosodimethylamine	1.84E-02	1.90E-02	QN	ON		UN	2
Bis(2-chloroethyl)ether	1.84E-02	1.90E-02	2	Q.		2 2	
Phenol	1.84E-02	1.90E-02	2	QN		2 2	2 2
2-chlorophenol	1.84E-02	1.90E-02	S _N	QX		2 2	2 2
1,3-dichlorobenzene	1.84E-02	1.90E-02	Q	Q.	CN	2 2	2 5
1,4-dichlorobenzene	1.84E-02	1.90E-02	QN	QN	Q	S	2 2
1,2-dichlorobenzene	1.84E-02	1.90E-02	QN	Q	QN	QN	2 2
Benzyl alcohol	1.84E-02	1.90E-02	QN	QN	QN	2	2
Bis(z-cnioroisopropyi)ether	1.84E-02	1.90E-02	QN	QN	QN	2	S
z-metnylpnenol	1.84E-02	1.90E-02	QN	QN	QN	Q	S
nexachioroemane	1.84E-02	1.90E-02	QN	QN	QN	Q	CN
N-nitroso-di-n-propyiamine	1.84E-02	1.90E-02	QN	ΩN	QN	Q.	CN
4-metnylphenol	1.84E-02	1.90E-02	QN	QN	QN	QN	S
Nitropenzene	1.84E-02	1.90E-02	QN	QN	QN	Q	S
Supriorite 2 mitrophonol	1.84E-02	1.90E-02	QN	ND	QN	QN	2
z-innopriendi	1.84E-02	1.90E-02	2	Q.	CN	274	

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Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

	i Netek	* Number of items tekted => <u>v.120. **</u> Net Explosive Weight - N.E.W. (16s.) => 1.3:86E <u>.03 f</u>	ms tested => (W; (lbs:)=>	20 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	release Hurskion (†). Umircooficenthatien (UC):	e Baile Manual	Ex05 g/m /(g/s)
1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、		ATC Firing Test Results	Results				
	3. 7. 37	, Dally Measured	Average	Average Adiusleb	* Total Mass	Súbstance Concentration	Substance Emission
	Actual	Background	Emission	Emission	Emitted		Rate
	Concentration (mg/m³)	Concentration (mg/m3)	Factor (EF) (lb/flem)	Factor (Ib/Ib/NEV)	(gramfs) tem)	r (graffis/m ⁵): coNc.	(g/ltem)/sec ER
2,4-dimethylphenol	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
Bis(2-chloroethoxy)methane	1.84E-02	1.90E-02	Q	QN	QN	QN	QN
2,4-dichlorophenol	1.84E-02	1.90E-02	QN	ND	QN	Q	QN
1,2,4-trichlorobenzene	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
Naphthalene	1.49E-02	1.90E-02	2.61E-08	6.77E-06	1.185E-05	9.200E-11	2.369E-06
4-chloroaniline	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
Hexachlorobutadiene	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
4-chloro-3-methylphenol	1.84E-02	1.90E-02	QN	ND	QN	QN	Q
2-methylnaphthalene	1.84E-02	1.90E-02	QN	QN	QN	QN	Q
Hexachlorocyclopentadiene	1.84E-02	1.90E-02	ND	ND	QN	QN	2
2,4,6-trichlorophenol	1.84E-02	.1.90E-02	QN	ND	QN	QN	2
2,4,5-trichlorophenol	1.84E-02	1.90E-02	QN	ND	ND	ND	QN
2-chloronaphthalene	1.84E-02	1.90E-02	ON	ND	QN	QN	QN
2-nitroaniline	1.84E-02	1.90E-02	ND	ND	QN	QN	QN
Acenaphthylene	1.84E-02	1.90E-02	ND	ND	QN	ON	Q
Dimethylphthalate	1.84E-02	1.90E-02	QN	ND	QN	ND	Q
2,6-dinitrotoluene	1.84E-02	1.90E-02	Q	ND	QN	ND	QN
Acenaphthene	1.84E-02	1.90E-02	Ω	ND	ND	QN	QN
3-nitroaniline	3.67E-02	3.79E-02	Q	Q	QN	QN	QN
2,4-dinitrophenol	3.67E-02	3.79E-02	2	ND	ND	ON	ΩN
Dibenzofuran	1.84E-02	1.90E-02	QN	ND	QN	QN	QN
2,4-dinitrotoluene	1.84E-02	1.90E-02	QN	QN	ON	QN	Q
4-nitrophenol	3.67E-02	3.79E-02	ND	ND	QN	QN	ΩN
Fluorene	1.84E-02	1.90E-02	QN	ND	QN	QN	Ð
4-chlorophenyl-phenylether	1.84E-02	1.90E-02	2	QN	QN	QN	QN
Diethylphthalate	1.84E-02	1.90E-02	Q	Q	ΩN	DN	QN
4-nitroaniline	3.67E-02	3.79E-02	Q	Q	ON	QN	QN
4,6-dinitro-2-methylphenol	3.67E-02	3.79E-02	Q Q	QN	QN	QN	QN

	. Net Ex	Explosive Weldhid NEW (158) =>	EW THS :=>	3.885.03			5 seconds
10年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の		ATC EIGHA TASK DASHIET	PASINE 1			(8/B) (111/B) (B) (B/B)	Sill (lg/s)
		sa i Siriida v	Sinsay:				
	Average		Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
1、1のでは、1	Actual	Backgröund	Emission	Emission	Emmed		Rate
Compound	Concentration	Concentration	Factor (EF)	Factor	(grams/item)	(grams/m³)	(d/item)/sec
	(mg/m²)	(mg/m)):	(lb/item)	(Ib/Ib/NEW)		CONC	ER.
N-nitrosodiphenylamine(1)	1.84E-02	1.90E-02	QN	QN	QN	CN	CN
4-bromophenyl-phenylether	1.84E-02	1.90E-02	QN	QN	QN	S	
Hexachlorobenzene	1.84E-02	1.90E-02	QN	QN	QN	S	CN CN
Pentachlorophenol	3.67E-02	3.79E-02	QN	QN	QN	QN	S
Phenanthrene	1.84E-02	1.90E-02	QN	QN	ND	QN	CN
Anthracene	1.84E-02	1.90E-02	QN	QN	QN	QN	CZ
Di-n-butylphthalate	1.39E-02	1.90E-02	2.42E-08	6.26E-06	1.096E-05	8.509E-11	2 191E-0R
Fluoranthene	1.84E-02	1.90E-02	QN	QN	ND	QN	CN
Pyrene	1.84E-02	1.90E-02	QN	QN	ND ND	QN	QN
Butylbenzylphthalate	1.84E-02	1.90E-02	QN	QN	QN	QN	CN
Benzo(a)anthracene	1.84E-02	1.90E-02	QN	Q	QN.	Q	QN
Chrysene	1.84E-02	1.90E-02	ND	QN	QN	QN	QN
3,3-dichlorobenzidine	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Bis(2-ethylhexyl)phthalate	3.22E-01	4.93E-02	4.76E-07	1.23E-04	2.160E-04	1.678E-09	4.321E-05
Di-n-octylphthalate	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Benzo(b)fluoranthene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Benzo(k)fluoranthene	1.84E-02	1.90E-02	QN	ON	QN	QN	QN
Benzo(a)pyrene	1.84E-02	1.90E-02	Q	QN	QN	ND	ND
Indeno(1,2,3-cd)pyrene	1.84E-02	1.90E-02	QN	QN	QN	QN	QN
Ulbenz(a,n)antinacene	1.84E-02	1.90E-02	Q	Q	QN	QN	QN
Benzo(g,n,i)peryiene	1.84E-02	1.90E-02	ND	ON	QN	N N	QN
SVOC Tentatively Identified Compounds (TICs)	npounds (TICs)						
10-13 (PAHS)		16149					
Naphthalene	7.97E-03	2.46E-03	9.90E-09	2.57E-06	4.490E-06	3.487E-11	8.979E-07
Acenaphthylene	2.29E-04	1.90E-05	3.99E-10	1.03E-07	1.811E-07	1.407E-12	3.623E-08
Acenaphthene	7.52E-05	3.03E-05	8.18E-11	2.12E-08	3.710E-08	2.881E-13	7.419E-09
Fluorene	1.69E-04	3.03E-05	2.44E-10	6.33E-08	1.107E-07	8.600E-13	2.215E-08
Phenanthrene	2.57E-04	5.31E-05	3.62E-10	9.37E-08	1.641E-07	1 27AE 12	2 2025 00

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Table B-5: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A1) - 300 meter location

÷	Cart	artridge, 5.56;mmBall, M855;(M164d)	M855 (M1641	1145		Punoi II	round.
	Net EX	Number of items tested == Explosive Weight N.E.Warlbs.)=5	ms tested => We (lbs.) =>	*3.88E*03*	eleaserduration(i): Unit concentration (Uc):	3.883E-05	seconds g/m²/(g/s)
		ATC Firing Test Results	Results			4	
	Average	* Daily	A Average,	Avelage	. Total Mass.	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
	Actival	Background ***	Emission	Emission	Comment of the second of the s		Rate
Spine C	Concentration	Concentration	Fáctór (EF)	Factor	(grams/item)	A (grams/ms)	(g/flem)/sec
	. 2	் . '('ய்/gய)	(mail(all)			SINGS	
Anthracene	3.03E-05	1.90E-05	5.31E-11	1.38E-08	2.408E-08	1.870E-13	4.816E-09
Fluoranthene	2.39E-04	1.90E-05	4.17E-10	1.08E-07	1.893E-07	1.470E-12	3.787E-08
Pyrene	5.14E-04	1.90E-05	9.00E-10	2.33E-07	4.081E-07	3.170E-12	8.163E-08
Benzo(a)anthracene	9.91E-05	1.90E-05	1.73E-10	4.48E-08	7.842E-08	6.090E-13	1.568E-08
Chrysene	1.18E-04	1.90E-05	2.06E-10	5.35E-08	9.367E-08	7.274E-13	1.873E-08
Benzo(b)fluoranthene	2.20E-04	1.90E-05	3.85E-10	9.97E-08	1.744E-07	1.355E-12	3.489E-08
Benzo(k)fluoranthene	8.63E-05	1.90E-05	1.51E-10	3.91E-08	6.836E-08	5.309E-13	1.367E-08
Benzo(e)pyrene	3.49E-04	1.90E-05	6.08E-10	1.58E-07	2.758E-07	2.142E-12	5.516E-08
Benzo(a)pyrene	1.18E-04	1.90E-05	2.07E-10	5.36E-08	9.378E-08	7.283E-13	1.876E-08
Indeno(1,2,3-cd)pyrene	2.02E-04	1.90E-05	3.53E-10	9.14E-08	1.599E-07	1.242E-12	3.198E-08
Dibenz(a,h)anthracene	3.48E-05	1.90E-05	6.06E-11	1.57E-08	2.751E-08	2.136E-13	5.501E-09
Benzo(g,h,i)perylene	7.07E-04	1.90E-05	1.24E-09	3.20E-07	5.606E-07	4.354E-12	1.121E-07
Dioxins and Furans							
2378-TCDD	5.02E-09	4.41E-09	Q	Q	QN	ND	QN
12378-PECDD	2.86E-09	2.50E-09	ND	QN	QN	QN	QN
123478-HXCDD	2.58E-09	2.45E-09	QN	QN	ON	ND	QN
123678-HXCDD	2.64E-09	2.51E-09	QN	QN	QN	ND	QN
123789-HXCDD	2.45E-09	2.33E-09	QN	QN	Q	ND	QN
1234678-HPCDD	4.93E-09	3.75E-09	8.65E-15	2.24E-12	3.923E-12	3.047E-17	7.846E-13
ОСББ	6.04E-08	4.61E-08	3.09E-14	8.00E-12	1.400E-11	1.087E-16	2.799E-12
2378-TCDF	2.08E-09	1.80E-09	Q.	ND	QN	QN	QN
12378-PECDF	2.47E-09	2.22E-09	QN	ND	ON	QN	QN
23478-PECDF	2.52E-09	2.39E-09	ON	ND	QN	QN	QN
123478-HXCDF	1.55E-09	1.52E-09	ON	ND	QN	QN	QN
123678-HXCDF	1.54E-09	1.49E-09	QN	QN	QN	QN	QN
123789-HXCDF	4.23E-09	4.58E-09	Ω	Q Q	QN	QN	QN
234678-HXCDF	1.68E-09	1.60E-09	Ω	ND	QN	QN	ND
1234678-HPCDF	9.18E-10	7.64E-10	1.67E-15	4.33E-13	7.585E-13	5.890E-18	1.517E-13

	A levil	We Explosive Weight - NE.W. (168) =>	W. (lbs.) =>	3.86E-033	release duration (t): 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14	St. T. T. ST.	Seconds q/m//(q/s)
		ATC FIRING Test Results	Results!				
	Average	Daily	Average	Averade	Total Wass	Silistance	Či ilistanoc
	Measured	Measured	Adjústěd	Adjusteb	of Substance	Concentration	Emission
The state of the s	Actual	Background	Emission	Emission	EMIted		Rafe
Compound	Concentration	Concentration	Factor (EF)	Factor	(gřáms/item)	(grams/m³)	(a/item)/sec
	(mg/m²)	(mg/m³))	(lb/item)	(lb/lb/NEW)		CONC	ER.
1234789-HPCDF	2.42E-09	6.29E-09	QN	QN	QN	CN	CZ
OCDF	3.21E-09	2.70E-09	QV	QN	QN	CN	
<u>Energetics</u>			4	* 11.5			2
Nitrobenzene	3.55E-03	NA	Q	QN	QN	QN	CN
2-Nitrotoluene	3.55E-03	NA	QN	QN	QN	CN	2
3-Nitrotoluene	3.55E-03	AN	Q	QV	Q	S	2 2
4-Nitrotoluene	3.55E-03	NA	Q	QN	QN	S	2 2
Nitroglycerine	3.55E-03	NA	Q	QN	QN	CN CN	2 2
1,3-Uinitrobenzene	3.55E-03	NA	QN	QN	QN	CN	S
2,6-Dinitrotoluene	3.55E-03	NA	Q	Q	QN	QN	CN
2,4-Uinitrotoluene	3.55E-03	NA	QN	ON	QN	QN	QN
1,3,5-l rinitrobenzene	3.55E-03	NA	QN	QN	QN	ND	CN
2,4,6-1 rinitrotoluene	3.55E-03	NA	ND	Q	ON	QN	2
ZUX	3.55E-03	AN	Q	ND	QN	QN	QN
4-Amino-z,b-Uinitrotoluene	3.55E-03	A'A	QN	QN	ND	QN	QN
Z-Animo-4,o-Diminotonene	3.55E-03	NA	QN	Q	QN	QN	QN
l eu yı	3.55E-03	NA	ΩN	Q	QN	QN	QN
TIMY.	7.10E-03	NA	Q	QN	QN	QN	QN
Pentaerytinitoitetranitrate	7.10E-03	NA	QN	ND	QN	Q	QN
Ulbutyl phthalate	1.77E-01	NA NA	Q	QN	QN	Q.	QN
Dioctyl prinalate	1.77E-01	NA	Q	ND	QN	QN	QN
Dipnenylamine	8.87E-02	ΥZ	S	CZ	CN	2	2

^{&#}x27;ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study) NA = Not Applicable

ND = Not Detected

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Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cartii Net Exp	Cartridge, 5:56-mm.Ball, M855 (M16A2)		2)	No.of.rounds(II) telease duration (I) telease duration (I) with the seconds United the seconds (I) United the seconds (II)	# (* * * * * * * * * * * * * * * * * * *	round seconds g/m²/(g/s)
10年		ATC Firing Test Results 🗽	sults ¹	A THE PARTY.			
	Average	Daily	Average	Averagest	Total Mass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	. c. of Substance.	Concentration	Emission
	Actual	Background	Emission	Emission	Palities .		Rate
Compound	Concentration	Concentration	Factor	Factor	(grams/(lem)	(grams/m3)	*(q/item)/sec
	(mg/m³)	(mg/m³)	(lb/item)	(Ib/Ib/NEVV)		CONC	ER
Permanent Gases							
Ammonia (NH3)	3.41E+01	NA	3.35E-05	8.69E-03	1.521E-02	1.181E-07	3.042E-03
Carbon Dioxide (CO2)	8.35E+02	NA	8.21E-04	2.13E-01	3.722E-01	2.891E-06	7.445E-02
Carbon Monoxide (CO)	1.63E+03	NA	1.60E-03	4.16E-01	7.278E-01	5.652E-06	1.456E-01
Oxides of Nitrogen (NOx)	8.43E+01	NA	8.28E-05	2.15E-02	3.755E-02	2.916E-07	7.510E-03
Sulfur Dioxide (SO2)	2.62E-01	NA	ON	ND	ON	2	QN
Acid Gases				1.0		100	
Hydrogen Fluoride	2.20E-01	2.50E-01	ND	ND	ON	QN	QN
Hydrogen Chloride	2.15E-01	2.50E-01	QN.	ND	QN	Q	Q
Hydrogen Bromide	2.10E-01	2.40E-01	ND	ND	ON	QN	QN
Nitric Acid	4.00E-01	2.40E-01	5.85E-07	1.52E-04	2.655E-04	2.062E-09	5.309E-05
Phosphoric Acid	2.15E-01	2.40E-01	Q	ND	ON	QN	Q
Sulfuric Acid	2.15E-01	2.50E-01	QN	ND	ON	QN	QV
<u>Cyanlde</u>			1.00				P. C. J. L. L.
Particulate Cyanide	1.20E-02	1.20E-02	QN	ND	ON	QN	QN
Hydrogen Cyanide	2.39E+01	1.30E-02	2.66E-05	6.89E-03	1.205E-02	9.361E-08	2.411E-03
Particulates:				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			
Total Suspended Particulate	3.50E+01	AN	3.90E-05	1.01E-02	1.768E-02	1.373E-07	3.537E-03
Particulate Matter <10 microns	3.59E+01	AN	4.00E-05	1.04E-02	1.813E-02	1.408E-07	3.625E-03
Particulate Matter <2.5 microns	2.48E+01	NA	2.76E-05	7.14E-03	1.250E-02	9.708E-08	2.500E-03
<u>Metàls</u>				1. 1. 1. 1. 1.		46.16	7
Aluminum	2.12E-01	8.95E-02	1.48E-07	3.83E-05	6.698E-05	5.202E-10	1.340E-05
Antimony	1.78E+00	2.37E-01	1.74E-06	4.51E-04	7.889E-04	6.127E-09	1.578E-04
Arsenic	1.36E-02	1.41E-02	S	ND	ON	QN	Q
Barium	1.06E+00	5.65E-02	1.17E-06	3.03E-04	5.306E-04	4.120E-09	1.061E-04
Beryllium	5.45E-02	5.65E-02	Q	QN	QN	ΩN	Q
Cadmium	5.45E-02	5.65E-02	ΩN	QN	ND	QN	QN
Calcium	4.54E-01	7.26E-02	4.33E-07	1.12E-04	1.965E-04	1.526E-09	3.929E-05

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cart	artridge, 5.56-mm Ball, M855 (M16A2)	5.56-mm Ball, M855 (M16A Nimheror nemes 6-16년 그	2)	No. of founds (I)		puno
	Net Exp	Explosive Weight. N.E.W. (Ibs.) =>	= (¶ps) =>	3.8KE:03	7.00		spuopas g
		ATC Firing Test Results	esults 1		Simponice financin (UC):	- 31883E-05 9/m /(g/s)	2 g/m /(g/s)
	Average	Daily	Average	Averade			
	Measured	Measured	Adiusted	Adhistad	Of Scherance	Substance	Substance
	Actual	Background	Emission	Emission		Concentration	Emission
Compound	Concentration	Concentration	Factor	Factor	(graffs/flem)	(mame/m³	Kate
	(mg/m ²)	(mg/m³)	(lb//tem)	(Ib/Ib NEW)		CONC	ER.
Cinornaria	5.45E-02	5.65E-02	QN	QN	QN	CIV	
Cobalt	5.45E-02	5.65E-02	QN	QN	Q	2 2	Q Z
Copper	1.43E+01	7.51E-02	1.58E-05	4.10E-03	7.178F-03	K R7EE OO	UND TOOL A
Lead	4.54E+00	5.65E-02	5.04E-06	1.31E-03	2.285E-03	4 775F 09	1.436E-03
Magnesium	5.45E-02	5.65E-02	Q	CN	ON NO	1.7735-00	4.5/1E-04
Manganese	5.45E-02	5.65E-02	QN	S		ON S	Q.
Nickel	5.45E-02	5.65E-02	Q	S		2	Q
Selenium	1.36E-02	1.41E-02	CZ.	S	22	ON S	Q
Silver	5.45E-02	5.65E-02	S	2 2		QN	Q
Thallium	5.45E-02	5 65E-02	2 2	2 2	ON I	QN	QN
Vanadium	5.45E-02	5.65E-02	2 2	2 2	ON	QN	QN
Zinc	1.86F+00	5.55E-02	2077.00	ON L	QN	ND	Q
TO-11 CarbonyIs		0.00E-02	Z.U/E-U0	5.38E-04	9.410E-04	7.308E-09	1.882E-04
Formaldehyde	6 76F-02	1 23E 01	7 545 00		Same and the Same of the	The second second	
Acetaldehyde	1.80E-01	1 80E-01	7.34E-U8	1.95E-05	3.418E-05	2.655E-10	6.837E-06
Acetone	1.19F+00	1 105-01	2 2		QN	QN	QN
Acrolein	2.29E-02	2.20E-00	2 FEET OF	ON COST	QN	QN	QN
Proprionaldehyde	2.37E-01	2.37F-01	4.30E-00	0.0ZE-U0	1.159E-05	9.002E-11	2.318E-06
Crotonaldehyde	1.15E-01	1.43E-01	2	2 2	ON C	Q	ON
Butyraldehyde	2.95E-01	2.95E-01	2	2 2		QN	QN
Benzaldehyde	4.34E-01	4.34F-01	2 2	2 2	ON	QN	QN
isovaleraldehyde	3.52E-01	3 52E_01	2 2	2 2	QN	QN	QN
Valeraldehyde	3.52F-01	3 52E-01	2 2	2	QN	QN	QN
o,m,p-Tolualdehyde	4.91E-01	4 91E-01	2 2	2 2	QN	QN	QN
Hexaldehyde	4.10E-01	4 10E-01	2 2	2	QN	QN	QN
2,5-Dimethylbenzaldehyde	4 10F-01	4 40E 04	2	Q.	QN	Q	QN
VOCs		#. IOE-01	S	QN	QN	QN	QN
Propene	7 31E 02	4 705 00					
	10.1.05	1.72E-U3	8.16E-08	2.12E-05	3.703E-05	2.876E-10	7.407E-06

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cartri LNet Exp	artridge, 5,56-mm Ball, M855 (M16A2) — 15,500 mm Ndmber of tiems tested ⇒ 15,100 mm 151 mm Explosive Weight * N.E.W. (188.) ⇒ 2186 E-03#	0.56-mm Ball: M855.(M16A2 Ndmber 6: Items tested => Weight = N E.W. (UBs) =>	1,00 (3) (5) (5) (5) (5) (5) (5) (5) (5) (5) (5	2) - 1, 2, 2, 2, 2, 3, 3, 3, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3,	######################################	spijojas spijojas punoj
		ATC Firing Test Results 📜	sults! _} .	1011			
	Average	Dally	Average	Average	TotaliMass	Substance	Substance
	Measured	Measured Background	Adjusted	Adjusted Emission		Concentration	: Emission Pate
Compound	Concentration	Concentration	Factor	Factor		(diame)	Section 1
	(mg/m³)	(mg/m ³)	(lb/jtelm)	(Ib/Ib/NEW)		ONOO	BR,
Dichlorodiflouromethane	2.23E-03	2.97E-03	QN	QN	QN	QN	QN
Chlorodifluoromethane	3.54E-03	3.54E-03	QN	QN	ON	QN	QN
Freon 114	6.99E-03	6.99E-03	QN	QN	ON	QN	QV
Chloromethane	1.24E-03	2.07E-03	1.42E-09	3.67E-07	6.428E-07	4.992E-12	1.286E-07
Vinyl Chloride	2.56E-03	2.56E-03	QN	QN	ON	QN	QN
1,3-Butadiene	1.44E-02	2.21E-03	1.61E-08	4.17E-06	7.296E-06	5.666E-11	1.459E-06
Bromomethane	3.88E-03	3.88E-03	QN	QN	ND	QN	ND
Chloroethane	2.64E-03	2.64E-03	Q.	QN	ON	QN	ON
Dichlorofluoromethane	4.21E-03	4.21E-03	QN	QN	ON	QN	QN
Trichloroflouromethane	1.12E-03	1.69E-03	QN	QN	ND	QN	QN
Pentane	2.95E-03	2.95E-03	QN	QN	ND	QN	QN
Acrolein	2.29E-03	2.29E-03	QN	ON	ND	QN	QN
1,1-Dichlorethene	4.05E-03	4.05E-03	Q.	Q	ND	QN	QN
Freon 113	7.68E-03	7.68E-03	Q	ND	ND	QN	QN
Acetone	3.92E-02	1.90E-02	2.49E-08	6.44E-06	1.128E-05	8.759E-11	2.256E-06
Methyl Iodide	5.81E-03	5.81E-03	Q.	QN	ND	QN	QN
Carbon Disulfide	3.11E-03	3.11E-03	Q	QN	QN	QN	ND
Acetonitrile	5.71E-01	1.34E-02	6.25E-07	1.62E-04	2.833E-04	2.200E-09	5.667E-05
3-Chloropropene	3.13E-03	3.13E-03	QN	ND	ND	QN	ND
Methylene Chloride	1.91E-01	1.39E-02	1.98E-07	5.14E-05	8.988E-05	6.980E-10	1.798E-05
tert-Butyl Alcohol	3.03E-03	3.03E-03	QN	QN	ND	QN	QN
Acrylonitrile	4.45E-02	2.17E-03	4.97E-08	1.29E-05	2.254E-05	1.751E-10	4.509E-06
trans-1,2-Dichloroethene	3.96E-03	3.96E-03	Q	QN	ND	QN	ON
Methyl t-Butyl Ether	3.61E-03	3.61E-03	QN	ND	ND	QN	QN
Hexane	1.46E-01	2.47E-02	1.40E-07	3.62E-05	6.337E-05	4.921E-10	1.267E-05
1,1-Dichloroethane	3.97E-03	3.97E-03	QN	Q.	ND	ON	QN
Vinyl Acetate	3.52E-03	3.52E-03	QN	ND	ND	QN	QN
cis-1,2-Dichloraethene	3.96E-03	3.96E-03	QN	ND	ON	QN	ND

	Cartri Nei Exp	atridge, 5.56-mm Ball, M855 (M16A2)	M855 (M16A ffstested => Wr-(lbs) =>	2)	2)	1	l round:
		ATC Firing Test Results	sults.				2
	Average	Daily	Average	Avetage	TotalMass	Substance	Substance
	Measured	Measured	Adjusted	Adjusted	of Substance	Concentration	Emission
をおいています。 こうかい かんしゅう かんしゅん かんしゃ かんしゅん かんしゃ かんしゅん かんしゅん かんしゅん かんしゅん かんしゅん かんしゅん かんしゅん かんしゅん かんしん かんし	Actual	Background	Emission	Emission	Palling		Rate
Compound	Concentration	Concentration	Factor	Factor	(grams/item)	(grams/m²)	(g/item)/sec
2-Butanone	(mg/m) 2 95F-03	、(mg/m) ク 95E-03	(memon)	(WEW)	QN	CONC	CIN.
Ethyl Acetate	1.62E-02	3.60E-03	1.81F-08	4 68F-06	8 191E-08	R 361E 11	1 630E 06
Methyl Acrylate	3.52E-03	3.52E-03	2	2	ND	NO.	ND ND
Chloroform	4.88E-03	4.88E-03	QN	QN	QN	Q	QN
1,1,1-Trichloroethane	2.46E-03	1.09E-03	1.69E-09	4.38E-07	7.673E-07	5.959E-12	1.535E-07
Carbon Tetrachloride	6.29E-03	6.29E-03	QN	QN	ND	QN	2
1,2-Dichlorethane	1.21E-02	4.05E-03	1.36E-08	3.51E-06	6.150E-06	4.776E-11	1.230E-06
Benzene	6.23E-01	1.60E-03	6.94E-07	1.80E-04	3.146E-04	2.443E-09	6.293E-05
Isooctane	4.67E-03	4.67E-03	QN	ND	QN	QN	QN
Heptane	4.10E-03	4.10E-03	ND	ND	ND	QN	QN
Trichloroethane	4.88E-03	4.88E-03	QN	ND	ON	QN	QN
Ethyl Acrylate	4.09E-03	4.09E-03	2	ND	QN	QN	QN
1,2-Dichloropropane	4.62E-03	. 4.62E-03	ON	ND	QN	. QN	QN
Methyl Methacrylate	4.09E-03	4.09E-03	QN	QN	QN	QN	QN
Dibromomethane	7.11E-03	7.11E-03	ND	ND	ON	QN	QN
1,4-Dioxane	3.60E-03	3.60E-03	ND	QN	ON	QN	QN
Bromodichloromethane	6.70E-03	6.70E-03	QN	2	QN	ND	QN
4-Methyl-2-Pentanone	4.10E-03	4.10E-03		Q	QN	ND	QN
loluene	3.02E-02	3.77E-03	3.37E-08	8.72E-06	1.527E-05	1.186E-10	3.054E-06
Octane	4.67E-03	4.67E-03	2	Q	ND	ON	QN
trans-1,3-Dichloropropene	4.54E-03	4.54E-03	Q.	Q	QN	ND	QN
Ethyl Methacrylate	4.67E-03	4.67E-03	Q.	Q.	ND	QN	QN
1,1,2-Trichloroethane	5.46E-03	5.46E-03	Q	QN	QN	QN	QN
i ertrachloroethene	6.78E-03	6.78E-03	Q	Q	QN	QN	QN
Z-Hexanone	4.10E-03	4.10E-03	2	2	QN	QN	QN
Ulbromochloromethane	8.52E-03	8.52E-03	Q	QN	QN	ON	QN
1,2-Dibromoethane	7.68E-03	7.68E-03	2	Q	QN	QN	QN
Cnlorobenzene	4.60E-03	4.60E-03	QN	Q	QN	QN	QN

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Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cart Tings	artridge, 5:56-mm Ball; M855.(M16A2). ************************************	M855.(M16A ms lested ⇒>		No-of-rounds (I):		round a second
		ATC Eithe Test Results L				on-=000.c-	(SIS) IIIS
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	Average	Dally 1. Measured	Average, Adjústed	Average Adjusted	TotaliNass. of Substance	Substance Concentration	Substance Emition
	Actual	Background	Emission	Emission	Entitled		Rate
	Concentration	Concentration	Factor	Factor	(grams/lem)	(graffis/m³)	*(a/item)/sec
	(mg/m³)	່ (ເພີ່ອໃກາ້)	((lb//lem)	(ID/ID NEW)		CÓNC	ĒŘ
1,1,1,2-Tetrachloroethane	6.87E-03	6.87E-03	QN	QN	ND	QN	QN
Ethylbenzene	2.82E-03	4.34E-03	3.17E-09	8.21E-07	1.438E-06	1.116E-11	2.875E-07
m/p-Xylene	6.30E-03	4.34E-03	7.10E-09	1.84E-06	3.218E-06	2.499E-11	6.437E-07
o-Xylene	3.47E-03	4.34E-03	3.90E-09	1.01E-06	1.770E-06	1.375E-11	3.540E-07
Styrene	8.52E-03	4.26E-03	9.51E-09	2.47E-06	4.315E-06	3.351E-11	8.630E-07
Bromoform	1.03E-02	1.03E-02	QN	ND	QN	QN	QN
Cumene	4.92E-03	4.92E-03	QN	ND	QN	QN	QN
1,1,2,2-Tetrachlorethane	6.87E-03	6.87E-03	QN	ND	QN	Q	QN
1,2,3-Trichloropropane	6.03E-03	6.03E-03	QN	ND	QN	QN	QN
Bromobenzene	6.42E-03	6.42E-03	QN	ND	QN	QN	QN
4-Ethyltoluene	1.47E-03	4.92E-03	1.65E-09	4.27E-07	7.469E-07	5.800E-12	1.494E-07
1,3,5-Trimethylbenzene	9.83E-04	4.92E-03	1.12E-09	2.91E-07	5.101E-07	3.962E-12	1.020E-07
Alpha Methyl Styrene	4.83E-03	4.83E-03	QN	ND	QN	QN	QN
1,2,4-Trimethylbenzene	2.95E-03	4.92E-03	3.31E-09	8.57E-07	1.500E-06	1.165E-11	3.000E-07
1,3-Dichlorobenzene	6.01E-03	6.01E-03	QN	ND	QN	QN	<u>Q</u>
1,4-Dichlorobenzene	6.01E-03	6.01E-03	QN	ND	QN	QN	QN
Benzyl Chloride	5.18E-03	5.18E-03	QN	ND	ON	QN	QN
1,2-Dichlorobenzene	6.01E-03	6.01E-03	Q Q	ND	ND	QN	Q
Hexachlorethane	9.68E-03	9.68E-03	Q	S	ND	QN	QN
1,2,4-Trichlorobenzene	7.42E-03	7.42E-03	Q	ND	ON	QN	QN
Hexachlorobutadiene	1.07E-02	1.07E-02	Q	ND	QN	QN	QN
VOC Tentatively Identified Compounds (TICs)	ounds (TICs)						
Hydrocarbons							
Methane	1.05E+01	1.36E+00	1.04E-05	2.68E-03		_	-
Ethylene	6.94E-01	2.29E-02	7.71E-07	2.00E-04	3.497E-04	2.716E-09	6.995E-05
Acetylene	9.43E-02	2.13E-02	1.05E-07	2.72E-05	4.755E-05	3.693E-10	9.510E-06
Ethane	3.81E-01	2.46E-02	4.23E-07	1.10E-04	1.920E-04	1.491E-09	3.839E-05
Propylene	1.39E-01	3.44E-02	1.53E-07	3.97E-05	6.953E-05	5.400E-10	1.391E-05

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	Cartr	Cartridge: 5:56-mm.Ball; M855 (M16A2):	M855 (M16A ms tested ≥5 W/ (Ibs.) ⇒>	2)	No of rounds (I) 115 (II release duration (I) 3186E-03 Unit Concentration (IC)	8888	1 Found 1 5 seconds
The Walter Control of the Control of		ATC Firing Test Results!	saults!				
	Average Measured	, Daily Masenrad	Average	Average :-	Total Mass	Substance	Substance
	Actual	Background	Emission	Emission		Concentration	Emission
Compound	Concentration	Concentration	Factor	Factor	(grams/lem)	(grams/m³)	(g/item)/sec
Propane	3 61E-02	(mg/m2) 3 645 02	(lib/litem)	(ID/ID NEW)		CONC	ER,
Provide	3.01E-02	3.01E-02	2	Q.	QN	QN	QN
Isobutane	3.20E-02 4.75E-02	3.20E-02	2 2	2	Q.	QN	QN
1-Butene/Isohutvlene	8 26E-02	4.73E-02	00 000	ON C	QN	Q	QN
1,3-Butadiene/butane	6.88E-02	6 88F-02	9.03E-00	4.34E-05	4.096E-05	3.181E-10	8.193E-06
cis-butene	4.59E-02	4 59F-02	Š	2 2		ב ב	Q
1-Butvne	4 59E-02	4 50E 02		2 2	ON S	Q.	Q
trans-Butene	4.59E-02	4 59F-02	2 2	2 5	2 2	QN	Q.
2-Butyne	4.42E-02	4.42E-02	2	2 5		2	2
n-Pentane	5.90E-02	5.90E-02	S	2	2	2	Q .
n-Hexane	1.22E-01	7.05E-02	1 36F-07	3 51E 05	UNI 6 1525 05	ON LECT.	QN.
SVOCS				200	0.1522	4.///E-10	1.230E-05
N-nitrosodimethylamine	1.79E-02	1.83E-02	QN	CN	CN		
Bis(2-chloroethyl)ether	1.79E-02	1.83E-02	QN	S	S S	2 2	
Phenol	1.79E-02	1.83E-02	QN	GN		S S	Q S
2-chlorophenol	1.79E-02	1.83E-02	2	2	CN CN	S S	
1,3-dichlorobenzene	1.79E-02	1.83E-02	QN	QN	QN	S	
1,4-dichlorobenzene	1.79E-02	1.83E-02	Q	Q.	QN	QN	CN
1,2-dichlorobenzene	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
Benzyl alcohol	1.79E-02	1.83E-02	Q	QN	QN	S	QN
Bis(2-chloroisopropyl)ether	1.79E-02	1.83E-02	QN	ΩN	QN	S	QN
2-methylphenol	1.79E-02	1.83E-02	QN	QN	QN	S	QN
Hexachioroethane	1.79E-02	1.83E-02	ΩN	ND	QN	QN	QV
N-nitroso-di-n-propylamine	1.79E-02	1.83E-02	Q	QN	QN	QN	QV
4-metnyipnenoi	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
Nirobenzene	1.79E-02	1.83E-02	Q	QN	QN	QN	QN
Isophorone	1.79E-02	1.83E-02	Q	QN	QN	QN	QN
z-muopherion	1.79E-02	1.83E-02	Q.	Q Q	ND	QV	N

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Carric Net Exbi	artridge, 5:56-mm.Ballr/M855 (M16A Numbell of Items tested => Explosive, Weight ** N:E.W.** (Bs.) =>	M855 (M16A2 fistes(Ed = 5 W " (Bs) ±3	16A2)\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	No of round III) construction (No. 16 to 1	90 (1888) 9 (1878) 18 (1888)	round seconds g/m/((g/s)
		ATC Fiting Test Results 🛴 🛒	sults!				
	Average	Daily **	Adireted	Average	Total Mass	Substance	Substance
	Actual	Background	Emission	Emission	Emilied		Rate
Compound	Concentration (mg/m³) see	Concentration (mg/m3)	Factor (lb/item)	Factori (Ib/Ib NEW)	k (grafisilien)) France (grafisilien)	(grams/m)); conc	(g//tem)/sec
2,4-dimethylphenol	1.79E-02	1.83E-02	Q.	QN	QN	QN	ND
Bis(2-chloroethoxy)methane	1.79E-02	1.83E-02	QN	ND	ND	ON	QN
2,4-dichlorophenol	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
1,2,4-trichlorobenzene	1.79E-02	1.83E-02	QN	QN	QN	QN	Q
Naphthalene	9.20E-03	1.83E-02	1.03E-08	2.66E-06	4.656E-06	3.616E-11	9.312E-07
4-chloroaniline	1.79E-02	1.83E-02	ND	QN	QN	QN	QN
Hexachlorobutadiene	1.79E-02	1.83E-02	ON	QN	QN	QN	QN
4-chloro-3-methylphenol	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
2-methylnaphthalene	1.79E-02	1.83E-02	DN	ND	QN	QN	QN
Hexachlorocyclopentadiene	1.79E-02	1.83E-02	QN	ND	QN	QN	QN
2,4,6-trichlorophenol	1.79E-02	1.83E-02	QN	ON	QN	QN	QN
2,4,5-trichlorophenol	1.79E-02	1.83E-02	QN	ND	ΟN	QN	QN
2-chloronaphthalene	1.79E-02	1.83E-02	Q	ND	QN	QN	QN
2-nitroaniline	1.79E-02	1.83E-02	ND	ND	QN	DN	QN
Acenaphthylene	1.79E-02	1.83E-02	QN	QN	QN	ON	QN
Dimethylphthalate	1.79E-02	1.83E-02	QN	QN	GN	QN	ND
2,6-dinitrotoluene	1.79E-02	1.83E-02	Q.	Ω	QN	QN	QN
Acenaphthene	1.79E-02	1.83E-02	QN	Ω	ON	QN	QN
3-nitroaniline	3.57E-02	3.66E-02	QN	ΔN	QN	QN	ND
2,4-dinitrophenol	3.57E-02	3.66E-02	QN	QN	QN	QN	QN
Dibenzofuran	1.79E-02	1.83E-02	QN	QN	QN	ON	QN
2,4-dinitrotoluene	1.79E-02	1.83E-02	QN	QN	QN	QN	QN
4-nitrophenol	3.57E-02	3.66E-02	ON	ND	QN	QN	QN
Fluorene	1.79E-02	1.83E-02	Q	Q	QN	QN	QN
4-chlorophenyl-phenylether	1.79E-02	1.83E-02	QN	ND	QN	QN	ND
Diethylphthalate	1.79E-02	1.83E-02	Q.	Q	ON	QN	QN
4-nitroaniline	3.57E-02	3.66E-02	Q.	ΩN	QN	QN	QN
4,6-dinitro-2-methylphenol	3.57E-02	3.66E-02	QN N	QN	QN	QN	QN

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cart	artridge: 5:56-mm Ball :W855 (M16A2)	, M855 (M16A	2)	No. of rounds (I)		roundi
	Netrex	Explosive Weight N.E.W. (Ibs.) =>	Number of items tested => Weight - N.E.W. (lbs.) =>		THE TOWN THE BASE OF THE PROPERTY OF THE PROPE	9 1000	seconds
を 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		ATC Eiring Test Results	Psults			(S)(S)(Million Constant	(S)R) William
	Atterage	OAIIO				1	
	Measured	Measured	Adiristed	Adiretad	Otal Mass	Substance	Substance
	Actual	Backdrouhd	I Emission	Emission	LATERA .		LOISSION
	Concentration	Concentration	Factor	Factor		£ 1.33.7.7.	Kale
	(mg/m ²)	(m/o/m)	(lb/llem)	(Ib/Ib.NEW)	(illellisillelli)	(grams/m) CONC	-(g/item)/sec ⊱ ER
N-nitrosodiphenylamine(1)	1.79E-02	1.83E-02	ND	QN	CN	ON	
4-bromophenyl-phenylether	1.79E-02	1.83E-02	QN	QN		2 2	2 2
Hexachlorobenzene	1.79E-02	1.83E-02	QN	QN	QN	2 2	
Pentachlorophenol	3.57E-02	3.66E-02	QN	QN	ND	S	2 2
Phenanthrene	1.79E-02	1.83E-02	Q	QN	QN	QN	S
Anthracene	1.79E-02	1.83E-02	QN	QN	ND	QN	Q
Di-n-butylphthalate	1.05E-02	1.83E-02	1.15E-08	2.97E-06	5.205E-06	4.042E-11	1 041F-06
Fluoranthene	1.79E-02	1.83E-02	QN	QN	ND	QN	ON CIN
Pyrene	1.79E-02	1.83E-02	ND	QN	QN.	QN	Q
Butylbenzylphthalate	1.79E-02	1.83E-02	QN	QN	QN	QN	CZ
Benzo(a)anthracene	1.79E-02	1.83E-02	QN	QN ON	QN	QN	QN
Chrysene	1.79E-02	1.83E-02	ND	QN	QN	QN	Q
3,3-dichlorobenzidine	1.79E-02	·1.83E-02	QN	QN	QN	QN	Q
Bis(2-ethylhexyi)phthalate	3.93E-02	5.68E-02	QN	QN	QN	QN	QN
UI-n-octylpntnalate	1.79E-02	1.83E-02	QN	QN	QN .	Q	QN
penzo(b)iluoranmene	1./9E-02	1.83E-02	Q	QN	QN	QV	QN
Benzo(K)fluoranthene	1.79E-02	1.83E-02	QN	QN	QN	QN	N
Denzo(a)pyrene	1./9E-02	1.83E-02	Q	Q	QN	QN	QN
Indeno(1,2,3-cd)pyrene	1.79E-02	1.83E-02	2	Q	QN	ND	QN
Donog(z h.)	1.79E-02	1.83E-02	2	Q	QN	QN	QN
benzo(g,n,l)perylene	1./9E-02	1.83E-02	QN.	ND	QN	QN	Q
SVOC I entatively Identified Compounds (TIC:	Dounds (TICs)						
IOTIS (PAHS)					10年の日本の日本の日本の		
Naphthalene	8.84E-03	1.15E-03	8.73E-09	2.26E-06	3.961E-06	3.076E-11	7.922E-07
Acenaphthylene	3.39E-04	1.83E-05	3.79E-10	9.82E-08	1.719E-07	1.335E-12	3.438E-08
Acenaphthene	6.61E-05	1.83E-05	7.38E-11	1.91E-08	3.345E-08	2.598E-13	6.690E-09
Fluorene	1.88E-04	1.83E-05	2.10E-10	5.43E-08	9.511E-08	7.386E-13	1.902E-08
Phenanthrene	2.95E-04	4.21E-05	2.88E-10	7.46E-08	1.306E-07	1.014E-12	2.613E-08

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	Cartrii Net EXB	artridge; 5:56-mm Ball; M855 (M16A2)	M855 (M16A: ns (6sted ⇒> Wr'((6s)) ≘≸), r. (15 ° 3. 13,86E 03.	2) 11 10 10 rounds(I) 11 11 11 11 11 11 11 11 11 11 11 11 11	1, 2, 2, 5 5, 2, 5 5, 3,88x = 0.5	(s/B)/,w/B seconds spinoses
		ুATC Eiring/Test Results িা	sults!			and water	
	Average *** Measured	· Dally* Measured	Average Adiusted	Average - Adjusted		Substance: Concentration	*Substance Emission
	Actual	Background	Emission	Emission			Rate
Compound	Concentration (mg/m³)	Concentration (md/m³)	Factor (Ib/Item)	Factor (Ib/Ib/NEW)	catanisilem) (granisilem)	(grahis/m²) coNc	(g//tem)/sec
Anthracene	4.73E-05	1.83E-05	5.25E-11	1.36E-08	2.383E-08	1.851E-13	4.766E-09
Fluoranthene	4.02E-04	1.83E-05	4.47E-10	1.16E-07	2.028E-07	1.575E-12	4.055E-08
Pyrene	1.02E-03	1.83E-05	1.13E-09	2.93E-07	5.132E-07	3.986E-12	1.026E-07
Benzo(a)anthracene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	8.774E-13	2.260E-08
Chrysene	2.23E-04	1.83E-05	2.49E-10	6.45E-08	1.130E-07	8.774E-13	2.260E-08
Benzo(b)fluoranthene	3.13E-04	1.83E-05	3.49E-10	9.05E-08	1.584E-07	1.230E-12	3.169E-08
Benzo(k)fluoranthene	1.55E-04	1.83E-05	1.73E-10	4.48E-08	7.836E-08	6.086E-13	1.567E-08
Benzo(e)pyrene	4.38E-04	1.83E-05	4.87E-10	1.26E-07	2.211E-07	1.717E-12	4.422E-08
Benzo(a)pyrene	3.93E-04	1.83E-05	4.39E-10	1.14E-07	1.993E-07	1.548E-12	3.985E-08
Indeno(1,2,3-cd)pyrene	4.64E-04	1.83E-05	5.19E-10	1.34E-07	2.352E-07	1.827E-12	4.705E-08
Dibenz(a,h)anthracene	4.02E-05	1.83E-05	4.49E-11	1.16E-08	2.037E-08	1.582E-13	4.074E-09
Benzo(g,h,i)perylene	1.09E-03	1.83E-05	1.21E-09	3.14E-07	5.503E-07	4.274E-12	1.101E-07
Dioxins and Furans							A. 24
2378-TCDD	5.26E-09	5.29E-09	ND	ON	ND	QN	
12378-PECDD	3.56E-09	3.52E-09	ND	QN	QN	QN	ON
123478-HXCDD	2.35E-09	2.45E-09	ND	QN	QN	QN	ND
123678-HXCDD	2.44E-09	2.64E-09	ND	QN	QN	QN	ND
123789-HXCDD	7.70E-09	8.17E-09	QN	Q	QV	Q	ON
1234678-HPCDD	5.15E-09	6.59E-09	ND	Q	QN	QN	QN
OCDD	7.93E-08	1.14E-07	ΔN	Q	QN	QN	ND
2378-TCDF	3.94E-09	3.60E-09	ND	QN	QN	QN	ND
12378-PECDF	5.11E-09	5.21E-09	QN	QN .	QN	ON	QN
23478-PECDF	4.17E-09	3.87E-09	DN	ND	QN	QN	QN
123478-HXCDF	2.72E-09	2.96E-09	QN	QN	QN	ON	ND
123678-HXCDF	2.79E-09	3.09E-09	ΩN	QN	QN	QN	ND
123789-HXCDF	2.77E-09	3.06E-09	Q	QN	ON	QN	ND
234678-HXCDF	1.41E-09	1.60E-09	Q	QN	QN	QN	ND
1234678-HPCDF	1.45E-09	2.00E-09	Q.	QN	QN	Q	ND

M855data300m.xls

Table B-6: Air Modeling Output Data for the Cartridge, 5.56mm Ball, M855 (M16A2) - 300 meter location

	0	artiidge 5.56-mm Ball M855 (M16A2).	M855 (M16A	2)	No of rounds (I)		1 round
		Number of Items (ested =>	ns tësted ≕> 'A' ini's i	1,15			5 seconds
	VI IONI II		<= (380) ;XA	3.86E±03	Unit concentration (UC):	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	@/m ₃ /(g/s)
	A Section of the Sect	ATC Fiting Test Results	sults.		700		
	Average	Daily	Average	Average	Total Mass	Substance	Substance
	Measured	Measured	Adjüsted	Adjústed	of Substance	Concentration	22.2
	Actual	Background	Emission	Emission	EAITTE		
Compound	Concentration	Concentration	Factor	Factor	(arams/item)	(arams/m ³)	(A.//E.M.)
A CONTRACT OF THE PROPERTY OF	(mg/m ²)	(ma/m³)	(lb/ftem)	(Ib/Ib/NEW)		CONC	ER.
1234789-HPCDF	1.08E-09	1.16E-09	QN	QN	CN	CN	CIA
OCDF	3.67E-09	3.30E-09	8.50E-16	2.20E-13	3.857F-13	2 005E 19	7 742F 44
Energètics				作を記録が		4.330⊏-10	7.7 ISE-14
Nitrobenzene	3.48E-03	NA	Q	QN	CN	CIV	QIA
2-Nitrotoluene	3.48E-03	AN	QN	Q		2 2	
3-Nitrotoluene	3.48E-03	NA	QN	Q	CN	2 2	2 2
4-Nitrotoluene	3.48E-03	AN	Q	QN		2 2	2
Nitroglycerine	3.48E-03	NA	QN	Q		2 2	2 2
1,3-Dinitrobenzene	3.48E-03	NA	QN.	QV	CX	2 2	2 2
2,6-Dinitrotoluene	3.48E-03	NA NA	QV	2	CN	2 2	2 2
2,4-Dinitrotoluene	3.48E-03	A'A	9	QN.	QN	S	
1,3,5-Trinitrobenzene	3.48E-03	NA	QN	QN	QN	S	2 2
2,4,6-Trinitrotoluene	3,48E-03	NA	QN	QN	QN	Q	2 2
RDX	3.48E-03	NA	DN	QN	QN	2	CN
4-Amino-2,6-Dinitrotoluene	3.48E-03	NA	ND	QN	ON	QN	Q
z-Amino-4,6-Dinitrotoluene	3.48E-03	NA	QN	QN	QN	Q	QN
erry	3.48E-03	NA	ND	QN	QN	Q	CN
HMX	6.96E-03	NA	ND	Q	QN	2	S
Pentaerythritoltetranitrate	6.96E-03	NA	QN	Q.	QN	QN	S
Uibutyl phthalate	1.74E-01	NA	QN	QN	QN	QN	S
Dioctyl phthalate	1.74E-01	NA	QN	QN	QN	9	S
Uipnenylamine	8.70E-02	NA	QN	QN	QN	QN	QN
Footnotes:							

^{&#}x27;ATC = Aberdeen Test Center (for additional information on the data, refer to the Firing Point Emission Study)

NA = Not Applicable ND = Not Detected

APPENDIX C

HEALTH-BASED SCREENING LEVELS AND ACUTE TOXICITY VALUES

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Table Tabl	Compound	CAS#	Region 9 ∴PRG≓ (µg/m³)	Toxicity Endpoint (c or nc)	Region.3 RBC ((µg/m³)	Toxicity, Endpoint (c.or.no)	, HBSL ('ig/m'')	ERPG ((µg/m³)	# (#9/m³))	. <mark>AEGL</mark> (µg/m³)	Source (Tor E)	ATV (µg/m³)
Discussion Tobach	Permanent Gases											
Decode (CO2) 124-38-9 NA NA NA NA 5.40E+07 1.00E+04 1.00E+0	Ammonia (NH ₃)	7664-41-7		nc	104.39	nc	1.04E+02	1.75E+04	1.75E+04	NA	Ш	1.75E+04
Secondaria Signore Colorado Colorado Signore Colorado Signore Colorado Colorado Colorado Colorado Signore Colorado Colorado Colorado Signore Colorado	Carbon Dioxide (CO ₂)	124-38-9	NA		NA		NA	NA	5.40E+07	NA	1	5.40E+07
of Name NA 100E+02 NA 30E+04 polixide (SO2) 7446-09-5 8.00E+01 nc NA 1.60E+02 7.86E+02 7.86E+02 gene fluidide 7664-39-3 NA NA NA 1.60E+03	Carbon Monoxide (CO)	630-08-0	1.00E+04	nc	AN		1.00E+04	2.30E+05	2.28E+05	NA	Ш	2.30E+05
Dioxide (SO ₂) 7446-09-5 (SOOE+01) nc NA SOOE+01 (SOE+02 (SOE+02) (SOE+02) (SOE+02) (SOE+03) NA SOE+03 (SOE+03) (S	Oxides of Nitrogen (as NO)	10102-43-9	1.00E+02	nc	AN		1.00E+02	NA	3.08E+04	NA	T	3.08E+04
See See See See See See See See See Se	Sulfur Dioxide (SO ₂)	7446-09-5	8.00E+01	nc	NA		8.00E+01	7.89E+02	7.86E+02	NA	3	7.89E+02
gen fluoride 764-39-3 NA NA NA 1.60E+03 1.64E+03 gen bromide 7647-01-0 2.08E+01 nc 2.08E+01 nc 2.08E+01 4.50E+03 4.47E+03 gen bromide 100325-10-6 NA NA NA NA NA NA 1.06E+01 nA NA 2.50E+03 4.47E+03 gen bromide 764-38-2 1.04E+01 nc 1.06E+01 nc 1.04E+01 NA 2.50E+03 2.50E+03 horic acid 7664-38-2 1.04E+01 nc 1.06E+01 nc 1.04E+01 NA 2.50E+03 2.50E+03 gen Cyanide 77-12-5 NA 7.30E+01 nc 7.30E+01 NA 5.00E+01 NA 5.00E+03 2.50E+03 gen Cyanide 77-12-5 NA 7.30E+01 nc 7.30E+01 NA 5.00E+01 NA 5.00E+03 NA 5.00E+03 NA 5.00E+03 NA 5.00E+03 NA 5.00E+03 NA 5.00E+03 <	Acid Gases											
gen chloride 7647-01-0 2.08E+01 nc 2.08E+01 nc 2.08E+03 NA NA NA 9.93E+03 gen bromide 7697-37-2 NA NA NA NA NA 9.93E+03 gen bromide 7694-38-2 1.04E+01 nc 1.06E+01 nc 1.04E+01 NA 2.00E+03 incording 7694-93-9 NA 3.13E+00 nc 1.04E+01 nc 1.04E+01 NA 2.00E+03 gen Cyanide 57-12-5 NA 7490-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.00E+03 gen Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.00E+03 gen Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.00E+03 suspended Particulate 74-90-8 3.15E+01 nc 3.14E+00 nc 3.14E+00 NA 3.00E+04 num 7440-38-0	Hydrogen fluoride	7664-39-3	NA		NA		NA	1.60E+03	1.64E+03	NA	Э	1.60E+03
gen bromide 10035-10-6 NA NA NA NA 9.93E+03 Acid 7664-37-2 NA 1.06E+01 nc 1.06E+01 nc 1.06E+03 nA 2.86E+03 Acid 7664-33-9 NA NA 1.06E+01 nc 1.06E+01 nA 2.06E+03 2.06E+03 1c Acid 7664-33-9 NA NA 1.06E+01 nC 1.06E+01 nA 2.06E+03 2.06E+03 1c Acid 764-33-9 NA 1.30E+01 nC 1.31E+00 nC 1.31E+03 NA 5.00E+03 2.00E+03 Ualte Cyanide 57-12-5 NA 1.50E+01 nC 3.14E+00 nC 3.13E+03 NA 5.00E+03 Ualte Cyanide 74-0-96-1 5.00E+01 nC 3.14E+00 nC 3.13E+00 NA 5.00E+03 Ualte Cyanide 75.00E+02 1.50E+01 nC 3.14E+00 nC 3.13E+00 NA 5.00E+01 Ualte Cyanide 17.10E-02 NA<	Hydrogen chloride	7647-01-0	2.08E+01	nc	2.08E+01	nc	2.08E+01		4.47E+03		3	4.50E+03
Acid NA NA NA NA NA NA 2.58E+03 Inforcacid 7664-38-2 1.04E+01 nc 1.06E+01 nc 1.04E+01 nc 2.58E+03 Inforcacid 7664-38-2 1.04E+01 nc 1.06E+01 nc 1.06E+01 NA 2.00E+03 2.00E+03 gen Cyanide 57-12-5 NA 7.30E+01 nc 7.30E+01 NA 5.00E+03 Julates 7490-8 3.13E+00 nc 3.14E+00 nc 7.30E+01 NA 5.00E+03 Julates 750E+03 nc 1.50E+01 nc 7.30E+01 NA 5.00E+03 Link Na 7.50E+01 nc 1.46E+00 nc 1.46E+03 NA 1.50E+03 Link Na 7.440-38-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03 Link Na 7.440-38-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03	Hydrogen bromide	10035-10-6	NA		AN		NA		9.93E+03		T	9.93E+03
Care Color	Nitric Acid	7697-37-2	NA		AN		NA		2.58E+03		٧	1.30E+03
Second S	Phosphoric acid	7664-38-2	1.04E+01	nc	1.06E+01	nc	1.04E+01	NA	3.00E+03	NA	T	3.00E+03
sign NA 7.30E+01 nc 7.30E+01 NA 5.00E+02 Ulate Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 7.30E+01 NA 5.00E+02 Ulates Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.17E+03 Suspended Particulate 1.50E+01 nc NA 5.00E+01 NA NA NA NA Suspended Particulate 1.50E+01 nc NA 1.50E+01 NA NA </td <td>Sulfuric Acid</td> <td>7664-93-9</td> <td>NA</td> <td></td> <td>AN</td> <td></td> <td>NA</td> <td>2.00E+03</td> <td>2.00E+03</td> <td>NA</td> <td>ш</td> <td>2.00E+03</td>	Sulfuric Acid	7664-93-9	NA		AN		NA	2.00E+03	2.00E+03	NA	ш	2.00E+03
gen Cyanide 57-12-5 NA 7.30E+01 nc 7.30E+01 NA 5.00E+03 gen Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.17E+03 suspended Particulate 12789-66-1 5.00E+01 nc NA 5.00E+01 NA NA interest 1.50E+01 nc NA 1.50E+01 NA NA interest 1.50E+01 nc NA 1.50E+01 NA NA interest 1.50E+01 nc NA 1.50E+01 NA NA interest 1.40-30-3 5.11E+00 nc 5.11E+00 NA 1.50E+01 interest 1.40-30-3 5.21E-01 nc 5.11E-01 nc 5.11E-01 NA 3.00E+04 interest 1.40-30-3 5.21E-01 nc 7.45E-04 c 1.07E-03 NA 1.50E+03 interest 1.440-30-3 1.07E-03 nA na 1.00E+04 na <td< td=""><td>Cyanide</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Cyanide											
gen Cyanide 74-90-8 3.13E+00 nc 3.14E+00 nc 3.13E+00 NA 5.17E+03 suspended Particulate 12789-66-1 5.00E+01 nc NA 5.00E+01 NA NA suspended Particulate 1.50E+01 nc NA 5.00E+01 NA NA num 1.50E+01 nc 1.50E+01 NA 1.50E+01 NA NA num 7429-90-5 5.11E+00 nc 3.65E+00 nc 5.11E+00 NA 3.00E+04 nvy 7440-38-2 4.47E-04 c 4.47E-04 n 4.47E-04 n 1.50E+03 nv 7440-38-3 5.21E-01 nc 7.45E-04 n 4.47E-04 n 3.00E+04 nv 7440-38-3 5.21E-01 nc 7.45E-04 n 3.00E+01 nv 7440-39-3 6.0E-04 n 7.45E-04 n 1.07E-03 NA 1.00E+01 nv 7440-40-3 NA 1.50E-04	Particulate Cyanide	57-12-5	NA		7.30E+01	nc	7.30E+01	NA	5.00E+03	NA	T	5.00E+03
Suspended Particulate 12789-66-1 5.00E+01 nc NA 5.00E+01 NA	Hydrogen Cyanide	74-90-8	3.13E+00	nc	3.14E+00	nc	3.13E+00	NA	5.17E+03	NA	L	5.17E+03
suspended Particulate 12789-66-1 5.00E+01 nc NA 5.00E+01 NA NA includate 1.50E+01 nc NA 5.00E+01 NA NA includate 1.50E+01 nc NA 1.50E+01 NA NA includate 7429-90-5 5.11E+00 nc 3.65E+00 nc 1.46E+00 NA 3.00E+04 ony 7440-38-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03 includate 7440-38-2 A.47E-04 c 4.47E-04 NA 1.50E+03 includate 7440-38-3 1.07E-03 c 7.45E-04 c 4.47E-04 NA 1.50E+03 imm 7440-41-7 8.00E-04 c 7.45E-04 c 1.07E-03 NA 3.00E+04 imm 7440-41-7 8.00E-04 c 1.53E-04 NA 1.50E+03 imm 7440-48-4 NA 1.46E+02 c 1.53E-04 NA 1.50E+03 </td <td>Particulates</td> <td></td>	Particulates											
5.00E+01 nc	Total Suspended Particulate	12789-66-1	5.00E+01	nc	NA		5.00E+01	NA	NA	NA		NA
1.50E+01 nc	PM_{10}		5.00E+01	nc	NA		5.00E+01	NA	NA	NA		NA
num 7429-90-5 5.11E+00 nc 3.65E+00 nc 5.11E+00 NA 3.00E+04 bony 7440-36-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03 ic 7440-38-2 4.47E-04 c 4.47E-04 nc 1.46E+00 NA 1.50E+03 n 7440-39-3 5.21E-01 nc 5.11E-01 nc 5.21E-01 NA 1.50E+03 lum 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 1.50E+01 lum 7440-43-9 1.07E-03 c 9.94E-04 c 1.07E-03 NA 3.00E+01 m 7440-47-3 NA c 1.53E-04 c 1.53E-04 NA 1.50E+03 irium 7440-48-4 NA 1.46E+02 nc 1.46E+02 NA 1.50E+03 sr 7439-92-1 1.50E+09 c 1.46E+02 nc 1.46E+02 NA 1.50E+03 sr	PM _{2.5}		1.50E+01	nc	NA		1.50E+01	NA	NA	NA		NA
um 7429-90-5 5.11E+00 nc 3.65E+00 nc 5.11E+00 NA 3.00E+04 ny 7440-36-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03 c 7440-38-2 4.47E-04 c 4.15E-04 c 4.47E-04 NA 1.50E+01 m 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 1.50E+03 n 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 1.00E+01 n 7440-43-9 1.07E-03 c 9.94E-04 c 1.07E-03 NA 3.00E+01 um 7440-47-3 NA 2.20E+02 c 1.53E-04 NA 1.50E+03 um 7440-48-4 NA 1.46E+02 n 1.46E+02 NA 1.50E+03 r 7440-50-8 NA 1.46E+02 n 1.46E+02 NA 1.50E+03 r 7439-95-4 NA NA	Metals											
ny 7440-36-0 NA 1.46E+00 nc 1.46E+00 NA 1.50E+03 1 7440-38-2 4.47E-04 c 4.15E-04 c 4.47E-04 NA 3.00E+01 1 7440-39-3 5.21E-01 nc 5.11E-01 nc 5.21E-01 NA 1.50E+03 1 1 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 5.00E+00 1 1 7440-43-9 1.07E-03 c 1.07E-03 NA 3.00E+01 1 1 1 1.07E-03 c 1.53E-04 c 1.07E-03 NA 3.00E+01 1 1 1 1.53E-04 c 1.53E-04 NA 1.50E+03 1 1 1 1.46E+02 nc 1.46E+02 NA 1.50E+03 1 1 1.50E+03 nc 1.46E+02 nA 1.50E+03 1 1 1.50E+04 nc 1.50E+02 nA <td>Aluminum</td> <td>7429-90-5</td> <td>5.11E+00</td> <td>nc</td> <td>3.65E+00</td> <td>nc</td> <td>5.11E+00</td> <td>NA</td> <td>3.00E+04</td> <td>NA</td> <td>L</td> <td>3.00E+04</td>	Aluminum	7429-90-5	5.11E+00	nc	3.65E+00	nc	5.11E+00	NA	3.00E+04	NA	L	3.00E+04
: 7440-38-2 4.47E-04 c 4.15E-04 c 4.47E-04 NA 3.00E+01 im 7440-39-3 5.21E-01 nc 5.11E-01 nc 5.21E-01 NA 1.50E+03 um 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 5.00E+00 um 7440-43-9 1.07E-03 c 1.53E-04 c 1.07E-03 NA 3.00E+01 um 7440-43-9 1.07E-03 c 1.53E-04 c 1.53E-04 NA 3.00E+01 um 7440-47-3 NA 0<	Antimony	7440-36-0	NA		1.46E+00	nc	1.46E+00	NA	1.50E+03	NA	⊢	1.50E+03
Imm 7440-39-3 5.21E-01 nc 5.11E-01 nc 5.21E-01 NA 1.50E+03 Jim 7440-41-7 8.00E-04 c 7.45E-04 c 8.00E-04 NA 5.00E+00 Im 7440-43-9 1.07E-03 c 9.94E-04 c 1.07E-03 NA 3.00E+01 Im 7440-70-2 NA c 1.53E-04 c 1.53E-04 NA 3.00E+04 Im 7440-47-3 NA c 1.53E-04 nA 1.50E+03 NA 1.50E+03 Im 7440-50-8 NA 2.20E+02 nc 1.46E+02 NA 1.50E+03 Im 7439-92-1 1.50E+00 nc 1.50E+02 NA 1.50E+02 Im 740-02-0 NA NA NA 3.00E+03 Im 7.30E+01 nc 5.11E-02 NA 3.00E+03	Arsenic	7440-38-2	4.47E-04	ပ	4.15E-04	C	4.47E-04	NA	3.00E+01	NA	⊥	3.00E+01
Imm 7440-41-7 8.00E-04 C 7.45E-04 C 8.00E-04 NA 5.00E+00 Jum 7440-43-9 1.07E-03 C 9.94E-04 C 1.07E-03 NA 3.00E+01 n 7440-70-2 NA C 1.53E-04 C 1.53E-04 NA 1.50E+03 n 7440-47-3 NA C 1.53E-04 NA 1.50E+03 NA 1.50E+03 n 7440-47-3 NA NA 1.46E+02 NA 1.46E+02 NA 1.50E+03 n 7440-50-8 NA 1.50E+02 NA 1.50E+02 NA 1.50E+02 sium 7439-95-4 NA NA NA 1.50E+02 NA 3.00E+03 nese 740-02-0 NA 7.30E+01 NA 3.00E+03 3.00E+03	Barium	7440-39-3	5.21E-01	nc	5.11E-01	nc	5.21E-01	NA	1.50E+03	NA	T	1.50E+03
im 7440-43-9 1.07E-03 C 9.94E-04 C 1.07E-03 NA 3.00E+01 n 7440-70-2 NA C 1.53E-04 C 1.53E-04 NA 1.50E+03 um 7440-47-3 C 1.53E-04 C 1.53E-04 NA 1.50E+03 r 7440-48-4 NA NA 1.46E+02 nC 2.20E+02 NA 6.00E+01 r 7440-50-8 NA NA 1.46E+02 nC 1.46E+02 NA 1.50E+03 r 7439-92-1 1.50E+00 nA 1.50E+02 NA 1.50E+02 r 7440-60-50 NA NA NA 1.50E+02 NA 3.00E+03 r 7440-60-50 NA 7.30E+01 nC 5.11E-02 NA 3.00E+03 r 740-60-0 NA 7.30E+01 NA 3.00E+03 3.00E+03	Beryllium	7440-41-7	8.00E-04	ပ	7.45E-04	င	8.00E-04	NA	5.00E+00	NA	L	5.00E+00
n 7440-70-2 NA c I.53E-04 c I.53E-04 NA I.50E+03 um 7440-47-3 c 1.53E-04 c 1.53E-04 NA 1.50E+03 r 7440-48-4 NA 2.20E+02 nc 2.20E+02 NA 6.00E+01 r 7440-50-8 NA NA 1.46E+02 nc 1.46E+02 NA 3.00E+03 sium 7439-92-1 1.50E+00 nc 1.50E+00 NA 1.50E+02 sium 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 rese 740-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Cadmium	7440-43-9	1.07E-03	ပ	9.94E-04	C	1.07E-03	NA	3.00E+01	NA	T	3.00E+01
um 7440-47-3 c 1.53E-04 c 1.53E-04 NA 1.50E+03 - 7440-48-4 NA 2.20E+02 nc 2.20E+02 NA 6.00E+01 - 7440-50-8 NA 1.46E+02 nc 1.46E+02 NA 3.00E+03 sium 7439-95-4 NA NA NA 1.50E+00 NA 1.50E+02 nese 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 nese 7440-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Calcium	7440-70-2	NA		AA	c	NA	NA	3.00E+04	NA	⊥	3.00E+04
7440-48-4 NA 2.20E+02 nc 2.20E+02 NA 6.00E+01 7440-50-8 NA 1.46E+02 nc 1.46E+02 NA 3.00E+03 Sium 7439-95-4 NA NA NA NA 1.50E+00 NA 1.50E+02 nese 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 7440-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Chromium	7440-47-3		ပ	1.53E-04	C	1.53E-04	NA	1.50E+03	NA	⊢	1.50E+03
If 7440-50-8 NA 1.46E+02 nc 1.46E+02 NA 3.00E+03 ssium 7439-95-4 1.50E+00 nc NA 1.50E+02 NA 1.50E+02 ssium 7439-95-4 NA NA NA NA 3.00E+02 anese 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 7440-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Cobalt	7440-48-4	NA		2.20E+02	nc	2.20E+02	NA	6.00E+01	NA	⊢	6.00E+01
Insight NA NA NA 1.50E+00 NA 1.50E+02 Insight 7439-95-4 NA NA NA NA 3.00E+04 Incese 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 Incese 7440-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Copper	7440-50-8	NA		1.46E+02	nc	1.46E+02	NA	3.00E+03	NA	⊥	3.00E+03
sium NA 3.00E+04 NA 3.00E+04 NA 3.00E+04 NA 3.00E+03 NA 3.00	Lead	7439-92-1	1.50E+00	DC	Ą		1.50E+00	ΑA	1.50E+02	NA	⊢	1.50E+02
anese 7439-96-5 5.11E-02 nc 5.22E-02 nc 5.11E-02 NA 3.00E+03 7.30E+01 nc 7.30E+01 NA 3.00E+03	Magnesium	7439-95-4	Y Y		ΝΑ		AA	¥	3.00E+04	ΑN	⊢	3.00E+04
7440-02-0 NA 7.30E+01 nc 7.30E+01 NA 3.00E+03	Manganese	7439-96-5	5.11E-02	nc	5.22E-02	JC C	5.11E-02	¥.	3.00E+03	Ą	-	3.00E+03
	Nickel	7440-02-0	AN		7.30E+01	nc	7.30E+01	NA	3.00E+03	A V	-	3.00E+03

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Compound	CAS#	Region 9 PRG	Toxicity Endpoint	Region 3 RBC	Toxicity Endpoint	TS8H	ERPG	133L	AEGL	Source	ATV
Selenium	7782-49-2	NA	100 Control (100 C	1 83F+01	Ju July	1 83E+01	NA NA	6 00E±00	NIN VIN	1	(III/6H)
Silver	7740-22-4	NA		1.83E+01	2	1.83E+01	Z Z	3.00E+02	ZZ	- -	3.00E+02
Thallium	7440-28-0	ΝA		2.56E-01	nc	2.56E-01	NA	3.00E+02	NA	-	3.00E+02
Vanadium	7440-62-2	NA		2.56E+01	uc	2.56E+01	ΑA	1.50E+02	NA	-	1.50E+02
Zinc	7440-66-6	NA		1.10E+03	υC	1.10E+03	NA A	3.00E+04	Y.	_	3.00E+04
TO-11 Carbonyls											
Formaldehyde	20-00-0	1.48E-01	၁	1.39E-01	ပ	1.48E-01	1.23E+03	1.23E+03	AA	ш	1.23E+03
Acetaldehyde	75-07-0	8.73E-01	C	8.13E-01	ပ	8.73E-01	1.80E+04	1.80E+04	AA	ш	1.80E+04
Acetone	67-64-1	3.65E+02	nc	3.65E+02	DC.	3.65E+02		2.37E+06	AA	_	2.37E+06
Acrolein	107-02-8	2.09E-02	nc	2.08E-02	JL DL	2.09E-02	2.30E+02	2.29E+02	WA	Ш	2.30E+02
Proprionaldehyde	123-38-6	NA		AN		AN	A A	7.50E+04	A	-	7.50E+04
Crotonaldehyde	4170-30-3	3.54E-03	C	3.30E-03	ပ	3.54E-03	5.72E+03	5.72E+03	¥	ш	5.72E+03
Butyraldehyde	123-72-8	NA		NA		ΑN	ΑN	7.38E+04	¥.		7.38E+04
Benzaldehyde	100-52-7	3.65E+02	nc	3.65E+02	nc	3.65E+02	ΑN	1.50E+04	¥	_	1.50E+04
Isovaleraldehyde	590-86-3	NA		NA		A A	AN	¥	¥.		₹ Z
Valeraldehyde	110-62-3	ΝΑ		NA		AN	ΑN	¥	Ϋ́		AN
o,m,p-Tolualdehyde	1334-78-7	NA		NA		ΑN	ΑN	¥	ΑN		AZ
Hexaldehyde	66-25-1	NA		NA		ΑN	ΑN	ΑA	¥.		Ϋ́Z
2,5-Dimethylbenzaldehyde	5779-94-2	NA		ΝΑ		AN	NA	NA	NA		AN
VOCS											
Propene	115-07-1	NA		NA		NA	NA	ΑN	ΑĀ		ΑN
Dichlorodifluoromethane	75-71-8	2.09E+02	nc	1.83E+02	nc	2.09E+02	NA	1.48E+07	NA	-	1.48E+07
Chlorodifluoromethane	75-45-6	5.11E+04	nc	5.11E+04	nc	5.11E+04	NA	4.41E+06	NA	L	4.41E+06
Freon 114	76-14-2	A A		NA NA		NA NA	NA	2.10E+07	NA	⊢	2.10E+07
Chloromethane	74-87-3	1.07E+00	O	1.79E+00	υ	1.07E+00	A A	2.06E+05	NA	7	2.06E+05
Vinyl Chloride	75-01-4	2.20E-02	U	2.10E-02	ပ	2.20E-02	Ā	1.28E+04	NA	L	1.28E+04
1,3-Butadiene	106-99-0	3.74E-03	υ	3.48E-03	υ	3.74E-03	2.20E+04	2.21E+04	NA	ш	2.20E+04
Bromomethane	74-83-9	5.21E+00	nc	5.11E+00	nc	5.21E+00	A	5.82E+04	NA	⊢	5.82E+04
Chloroethane	75-00-3	2.32E+00	nc	NA		2.32E+00	NA	2.64E+06	NA	H	2.64E+06
Dichlorofluoromethane	75-71-8	2.09E+02	nc	1.83E+02	пС	2.09E+02	NA	1.48E+07	۸	-	1.48E+07
Irichlorofluoromethane	75-69-4	7.30E+02	nc	7.30E+02	nc	7.30E+02	NA	2.81E+06	¥	F	2.81E+06
Pentane	109-66-0	AN		¥			NA	1.80E+06	NA	F	1.80E+06
Acrolein	107-02-8	2.09E-02	nc	2.08E-02	nc	_	2.30E+02	2.29E+02	NA	Ш	2.30E+02
1,1-Dichloroethene	75-35-4	5.21E+02	nc	5.11E+02	nc	5.21E+02	NA	7.92E+04	NA	F	7.92E+04
Freon 113	76-13-1	3.13E+04	2	3.14E+04	20	3.13E+04		9.58E+06	NA	T	9.58E+06
Acetone	67-64-1	3.65E+02	nc C	3.65E+02	ည	3.65E+02	NA	2.37E+06	NA	F	2.37E+06

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Compound	CAS#	Region 9 PRG ((µg/m³)	Toxicity Endpoint (c or nc)	Region 3 RBC (µg/m³)	Toxicity Endpoint (c or nc)	(ng/m³)) HBSL	ERPG (µg/m?)	:TEEL: (üg/m³)	AEGL (µg/m³)	Source (Tor E)	ATV (µg/m³)
Methyl Iodide	74-88-4	NA		NA		NA	145000	1.45E+05	NA	Ε	1.45E+05
Carbon Disulfide	75-15-0	7.30E+02	nc	7.30E+02	nc	7.30E+02	NA	3.11E+04	NA	Τ	3.11E+04
Acetonitrile	75-05-8	6.20E+01	nc	6.21E+01	nc	6.20E+01	NA	1.01E+05	NA	⊢	1.01E+05
3-Chloropropene	107-05-1	1.04E+00	nc	NA		1.04E+00	9.39E+03	9.39E+03	NA	Ш	9,39E+03
Methylene Chloride	75-09-2	4.09E+00	၁	3.79E+00	ပ	4.09E+00	000969	6.94E+05	NA	Е	6.96E+05
tert-Butyl Alcohol	75-65-0	NA		NA		NA	NA	4.55E+05	NA	⊢	4.55E+05
Acrylonitrile	107-13-1	2.83E-02	S	2.61E-02	ပ	2.83E-02	21700	2.17E+04	NA	П	2.17E+04
trans-1,2-Dichloroethene	156-60-5	7.30E+01	วน	7.30E+01	nc	7.30E+01	NA	4.95E+04	NA	Τ	4.95E+04
Methyl t-Butyl Ether	1634-04-4	3.13E+03	ou	3.13E+03	nc	3.13E+03	NA	4.32E+05	NA	⊬	4.32E+05
Hexane	110-54-3	2.09E+02	วน	2.08E+02	nc	2.09E+02	NA	5.28E+05	NA	T	5.28E+05
1,1-Dichloroethane	75-34-3	5.21E+02	วน	5.11E+02	nc	5.21E+02	NA	1.21E+06	NA	1	1.21E+06
Vinyl Acetate	108-05-4	2.09E+02	ou	2.08E+02	nc	2.09E+02	19150	1.76E+04	NA	3	1.92E+04
cis-1,2-Dichloroethene	156-59-2	3.65E+01	วน	3.65E+01	nc	3.65E+01	NA	7.92E+05	NA	Ţ	7.92E+05
2-Butanone	78-93-3	1.04E+03	วน	1.04E+03	nc	1.04E+03	NA	8.85E+05	NA	┾	8.85E+05
Ethyl Acetate	141-78-6	3.29E+03	วน	3.29E+03	nc	3.29E+03	NA	1.44E+06	NA	T	1.44E+06
Methyl Acrylate	96-33-3	1.10E+02	วน	1.10E+02	nc	1.10E+02	NA	NA	NA		NA
Chloroform	67-66-3	8.35E-02	0	7.73E-02	O	8.35E-02	NA	9.76E+03	NA	T	9.76E+03
1,1,1-Trichloroethane	71-55-6	1.04E+03	ou	2.30E+03	nc	1.04E+03	1.94E+06	1.91E+06	NA	Ξ	1.94E+06
Carbon Tetrachloride	56-23-5	1.28E-01	၁	1.18E-01	O	1.28E-01	1.28E+05	1.26E+05	NA	ш	1.28E+05
1,2-Dichloroethane	107-06-2	7.39E-02	2	6.88E-02	ပ	7.39E-02	NA	8.08E+03	NA	1	8.08E+03
Benzene	71-43-2	2.49E-01	O	2.16E-01	ပ	2.49E-01	1.56E+05	1.60E+05	NA	Ξ	1.56E+05
Isooctane (2,2,4-trimethylpentane)	540-84-1	NA		NA		NA	NA	3.50E+05	NA	T	3.50E+05
Heptane	142-82-5	NA		NA		NA	NA	1.80E+06	NA	⊢	1.80E+06
Trichloroethane	71-55-6	1.04E+03	uc	2.30E+03	nc	1.04E+03	1.94E+06	1.91E+06	NA	Ш	1.94E+06
Ethyl Acrylate	140-88-5	1.40E-01	ပ	Ϋ́		1.40E-01	NA	6.14E+04	NA	⊢	6.14E+04
1,2-Dichloropropane	78-87-5	9.89E-02	၁	9.21E-02	O	9.89E-02	ΝΑ	5.08E+05	N A	-	5.08E+05
Methyl Methacrylate	80-62-6	7.30E+02	nc	7.30E+02	nc	7.30E+02	NA	4.09E+05	NA	_	4.09E+05
Dibromomethane	74-95-3	3.65E+01	nc	3.65E+01	nc	3.65E+01	NA	2.50E+05	NA	_	2.50E+05
1,4-Dioxane	123-91-1	6.11E-01	ပ	5.69E-01	၁	6.11E-01	NA	9.00E+04	NA	_	9.00E+04
Bromodichloromethane	75-27-4	1.08E-01	၁	1.01E-01	0	1.08E-01	NA	4.00E+03	NA	⊥	4.00E+03
4-Methyl-2-Pentanone	108-10-1	8.34E+01	nc	7.30E+01	nc	8.34E+01	NA	3.07E+05	NA	⊢	3.07E+05
Toluene	108-88-3	4.02E+02	nc	4.16E+02	nc	4.02E+02	1.88E+05	1.89E+05	NA	ш	1.88E+05
Octane	111-65-9	NA		AN		AN	NA	Ϋ́	ΑĀ		AN
trans-1,3-Dichloropropene	10061-02-6	5.17E-02	υ	4.82E-02	ပ	5.17E-02	NA	NA	¥		Ϋ́
Ethyl Methacrylate	97-63-2	3.29E+02	nc	3.29E+02	JC	3.29E+02	AN	AA	¥		ΑΝ
1,1,2-Trichloroethane	79-00-5	1.20E-01	ပ	1.12E-01	O	1.20E-01	Y Y	1.64E+05	Y Y	-	1.64E+05

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Compound	CAS#:	Region 9 PRG (ug/m³)	Toxicity. Endpoint (c or no)	Region 3 -RBC* -(µg/m³);	Toxicity Endpoint (c orne)	*((m/gr)).	ERPG (ug/m³):	TEEL) ((mg/m?));	AEGL (µg/m³)	Source (TorE)	ΑΤV (ug/m³)
Tetrachloroethene	127-18-4	3.31E+00	C	3.13E+00	ပ	3.31E+00	NA	6.78E+05	NA	Ļ	6.78E+05
2-Hexanone	591-78-6	AN		5.11E+00	nc	5.11E+00	NA	4.09E+04	NA	T	4.09E+04
Dibromochloromethane	124-48-1	8.00E-02	၁	7.45E-02	ပ	8.00E-02	NA	6.00E+03	NA	L	6.00E+03
1,2-Dibromoethane	106-93-4	8.73E-03	S	8.24E-03	ပ	8.73E-03	NA	1.54E+05	NA	1	1.54E+05
Chlorobenzene	108-90-7	6.21E+01	nc	6.21E+01	nc	6.21E+01	NA	1.38E+05	NA	1	1.38E+05
1,1,1,2-Tetrachloroethane	630-20-6	2.60E-01	S	2.41E-01	ပ	2.60E-01	NA	5.15E+04	NA	T	5.15E+04
Ethylbenzene	100-41-4	1.06E+03	nc	1.06E+03	nc	1.06E+03	NA	5.43E+05	NA	Ţ	5.43E+05
m&p-Xylene	108-38-3 106-42-3	7.30E+02	nc	7.30E+03	DI.	7.30E+02	NA	6.51E+05	NA	T	6.51E+05
o-Xylene	95-47-6	7.30E+02	nc	7.30E+03	ဥ	7.30E+02	ΑĀ	6.51E+05	A A	⊢	6.51E+05
Styrene	100-42-5	1.06E+03	пс	1.04E+03	ဥ	1.06E+03	2.13E+05	2.13E+05	A	ш	2.13E+05
Bromoform	75-25-2	1.75E+00	၁	1.61E+00	ပ	1.75E+00	NA	6.20E+03	NA	⊥	6.20E+03
Cumene	98-85-8	4.02E+02	nc	4.02E+02	nc	4.02E+02	NA	2.46E+05	NA	T	2.46E+05
1,1,2,2-Tetrachloroethane	79-34-5	3.31E-02	၁	3.13E-02	ပ	3.31E-02	NA	2.06E+04	NA	T	2.06E+04
1,2,3-Trichloropropane	96-18-4	9.61E-04	၁	3.13E-03	၁	9.61E-04	NA	6.03E+04	NA	L	6.03E+04
Bromobenzene	108-86-1	1.04E+01	nc	NA		1.04E+01	NA	4.82E+04	NA	Ţ	4.82E+04
4-Ethyltoluene	622-96-8	NA		NA		NA	NA	1.25E+05	NA	1	1.25E+05
1,3,5-Trimethylbenzene	108-67-8	6.21E+00	nc	6.21E+00	nc	6.21E+00	NA	3.68E+05	NA	T	3.68E+05
Alpha Methyl Styrene	98-83-9	2.56E+02	2	2.56E+02	nc	2.56E+02	NA	NA	NA		NA
1,2,4-Trimethylbenzene	95-63-6	6.21E+00	nc	6.21E+00	nc	6.21E+00	NA	1.80E+05	NA	Ţ	1.80E+05
1,3-Dichlorobenzene	541-73-1	3.29E+00	nc	3.29E+00	nc	3.29E+00	NA	3.61E+04	NA	1	3.61E+04
1,4-Dichlorobenzene	106-46-7	3.06E-01	၁	2.85E-01	ပ	3.06E-01		6.61E+05	NA	1	6.61E+05
Benzyl Chloride	100-44-7	3.96E-02	ပ	3.68E-02	ပ	3.96E-02	5.20E+03	5.17E+03	NA	ш	5.20E+03
1,2-Dichlorobenzene	95-50-1	2.09E+02	nc	3.29E+01	nc	2.09E+02	NA	3.01E+05	NA	1	3.01E+05
Hexachlorethane	67-72-1	4.80E-01	ပ	4.47E-01	O	4.80E-01	NA	2.90E+04	NA	Ţ	2.90E+04
1,2,4-Trichlorobenzene	120-82-1	2.08E+02	nc	2.08E+02	nc	2.08E+02	NA	3.71E+04	NA	1	3.71E+04
Hexachlorobutadiene	87-68-3	8.73E-02	ပ	8.03E-02	၁	8.73E-02	3.21E+04	3.20E+04	NA	Э	3.21E+04
<u>Hydrocarbons</u>											
Methane	74-82-8	NA		NA		NA	NA	3.30E+06	NA	T	3.30E+06
Ethylene	74-85-1	NA		NA		ΝΑ	NA	4.60E+05	ΑN	-	4.60E+05
Acetylene	74-86-2	NA		NA		NA	NA	ΑN	A		ΑN
Ethane	74-84-0	NA		NA		NA	NA	NA	NA		ΑN
Propylene	115-07-1	NA		AA		NA	NA	NA	NA		NA
Propane	74-98-6	NA		N A		NA	NA	3.78E+06	NA	L	3.78E+06
Propyne (methyl acetylene)	74-99-7	NA		NA		ΝA	Ϋ́	2.79E+06	AN	⊢	2.79E+06

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

риподшор	CAS#	Region 9	Toxicity Endpoint	Region 3 RBC	Toxicity Endpoint	HBSE	ERPG	TEBL	AEGL	Source	ATV
		(ມູ໘/m³)	(c or nc)	. (µg/m³) ⊱	(c or nc) 🗓	= (hg/m³)	່ (ມີg/m³)	(ˈ/ɪɡ/m²)	։ (µg/m³)	(T or E)	('m/bn)
Isobutane	75-28-5	AN		AN		AN	AN	9.52E+05	Ā	⊢	9.52E+05
1-Butene/Isobutylene (115-11-7)	106-98-9	NA		NA		NA	NA	6.87E+06	NA	T	6.87E+06
1,3-Butadiene/butane	106-99-0	3.74E-03	၁	3.48E-03	၁	3.74E-03	2.20E+04	6.4	NA	Э	2.20E+04
cis-butene	25167-67-3	NA		NA		NA	NA	1.72E+04	NA	T	1.72E+04
1-Butyne	107-00-6	NA		NA		AN	NA	NA	NA		NA
trans-Butene	25167-67-3	NA		NA		NA	NA	1.72E+04	NA	⊥	1.72E+04
2-Butyne (crotonylene)	503-17-3	NA		NA		NA	NA	NA	ΝA		NA
n-Pentane	109-66-0	NA		NA		AN	NA	1.80E+06	NA	T	1.80E+06
n-Hexane	110-54-3	2.10E+02	nc	2.08E+02	nc	2.10E+02	NA	5.28E+05	NA	⊥	5.28E+05
SVOCs											
n-nitrosodimethylamine	62-72-9	1.37E-04	ပ	1.23E-04	ပ	1.37E-04	NA	2.50E+03	NA	_	2.50E+03
bis(2-chloroethyl)ether	111-44-4	5.82E-03	ပ	5.69E-03	υ	5.82E-03	NA	5.85E+04	NA	⊥	5.85E+04
phenol	108-95-2	2.19E+03	วน	2.19E+03	nc	2.19E+03	NA	3.85E+04	NA	T	3.85E+04
2-chtorophenol	95-57-8	1.83E+01	วน	1.83E+01	nc	1.83E+01	NA	5.25E+03	NA	1	5.25E+03
1,3-Dichlorobenzene	541-73-1	3.29E+00	วน	3.29E+00	nc	3.29E+00	NA	3.61E+04	ΝA	1	3.61E+04
1,4-dichlorobenzene	106-46-7	3.06E-01	S	2.85E-01	၁	3.06E-01	NA	6.61E+05	NA	T	6.61E+05
1,2-dichlorobenzene	95-50-1	2.09E+02	nc	3.29E+01	nc	2.09E+02	NA	3.01E+05	NA	T	3.01E+05
benzyi alcohol	100-51-6	1.10E+03	่วน	1.10E+03	nc	1.10E+03	NA	5.53E+04	NA	_	5.53E+04
bis(2-chloroisopropyl)ether	108-60-1	1.92E-01	ပ	1.79E-01	ပ	1.92E-01	NA	6.99E+04	NA	⊢	6.99E+04
2-methylphenol	95-48-7	1.83E+02	nc	1.83E+02	uc	1.83E+02	ΝA	NA			NA
hexachloroethane	67-72-1	4.80E-01	ပ	4.47E-01	ပ	4.80E-01	NA	2.90E+04		_	2.90E+04
n-nitroso-di-n-propylamine	621-64-7	9.61E-04	၁	8.94E-04	ပ	9.61E-04	NA	2.00E+02		T	2.00E+02
4-methylphenol	106-44-5	1.83E+02	nc	1.83E+02	nc	1.83E+02	NA	NA	NA		AA
nitrobenzene	98-95-3	2.09E+00	nc	2.19E+00	nc	2.09E+00	ΑN	1.51E+04	NA	_	1.51E+04
isophorone	78-59-1	7.08E+00	၁	6.59E+00	ပ	7.08E+00	NA	2.83E+04	NA	_	2.83E+04
2-nitrophenol	88-75-5	NA		NA		NA	ΑA	NA	NA		NA
2,4-dimethylphenol	105-67-9	7.30E+01	nc	7.30E+01	nc	7.30E+01	NA	NA	NA		NA
bis(2-chloroethoxy)methane	111-91-1	NA		AA		NA	NA	NA	NA		NA
2,4-dichlorophenol	120-83-2	1.10E+01	nc	1.10E+01	nc	1.10E+01	NA	3.00E+04	NA	_	3.00E+04
1,2,4-trichlorobenzene	120-82-1	2.08E+02	nc	2.08E+02	nc	2.08E+02	NA	3.71E+04	NA	⊢	3.71E+04
naphthalene	91-20-3	3.13E+00	nc	3.29E+00	nc	3.13E+00	NA	7.86E+04	NA	T	7.86E+04
4-chloroaniline	106-47-8	1.46E+01	nc	1.46E+01	nc	1.46E+01	NA	3.00E+04	NA	⊥	3.00E+04
hexachlorobutadiene	87-68-3	8.62E-02	ပ	8.03E-02	၁	8.62E-02	3.21E+04	3.20E+04	NA	ш	3.21E+04
4-chloro-3-methylphenol	29-20-7	AN		ΝΑ		AN	NA	2.00E+04	ΝA	⊢	2.00E+04
2-methylnaphthalene	91-57-6	A A		7.30E+01	DC.	7.30E+01	NA		ΑA	-	2.00E+04
hexachlorocyclopentadiene	77-47-4	7.30E-02	ല	7.30E-02	2	7.30E-02	AN	2.23E+02	ΝA	-	2.23E+02

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Compound	CAS#	Region 9 PRG (ug/m³)	Toxicity Endpoint (c.or.nc)	Region 3 RBC (µg/m³)	Toxicity: Endpoint (c or nc)	(¿w/bn)) " TSBH	ERPG (µg/m³)	TIEEL (figima).	AEGL (µg/m³)	Source (Tor E)	ATV (ug/m³)
2,4,6-trichlorophenol	88-06-2	1.10E+02	2	1.10E+02	20	1.10E+02	¥	3.00E+04	NA	-	3 00E+04
2,4,5-trichlorophenol	95-95-4	3.65E+02	nc	3.65E+02	DC.	3.65E+02	¥	3.00E+04	¥	-	3.00E+04
2-chloronaphthalene	91-58-7	2.92E+02	nc	2.92E+02	nc	2.92E+02	ΑN	6.00E+02	¥	-	6.00E+02
2-nitroaniline	88-74-4	2.09E-01	nc	2.08E-01	nc	2.09E-01	Ϋ́	AN	¥		NA
Acenaphthylene	208-96-8	ΝΑ		NA		AN	NA	2.00E+02	A A	-	2.00E+02
dimethylphthalate	131-11-3	3.65E+04	nc	3.65E+04	nc	3.65E+04	Ϋ́	1.50E+04	¥	-	1.50E+04
2,6-dinitrotoluene	606-20-2	3.65E+00	nc	3.65E+00	nc	3.65E+00	¥	6.00E+02	¥	-	6.00E+02
acenaphthene	83-32-9	2.19E+02	nc	2.19E+02	nc	2.19E+02	¥	1.25E+03	¥	-	1.25E+03
3-nitroaniline	99-09-2	Ϋ́Α		NA		AN	ΑĀ	Ϋ́	¥		¥ X
2,4-dinitrophenol	51-28-5	7.30E+00	nc	7.30E+00	nc	7.30E+00	NA	7.50E+03	AN	-	7.50E+03
dibenzofuran	132-64-9	1.46E+01	ПС	1.46E+01	nc	1.46E+01	NA	ΑΝ	AN A		A A
2,4-dinitrotoluene	121-14-2	7.30E+00	nc	7.30E+00	nc	7.30E+00	NA	6.00E+02	¥	_	6.00E+02
4-nitrophenol	100-02-7	2.92E+01	JC	2.92E+01	nc	2.92E+01	NA	3.00E+04	Ϋ́	 -	3.00E+04
Fluorene	86-73-7	1.46E+02	nc	1.46E+02	nc	1.46E+02	NA	7.50E+04	ΑA	L	7.50E+04
4-chlorophenyl-phenylether	7005-72-3	ΝΑ		NA V		NA	NA	Ϋ́	¥		Ϋ́
diethylphthalate	84-66-2	2.92E+03	ဥ	2.92E+03	nc	2.92E+03	AN	1.50E+04	¥	_	1.50E+04
4-nitroaniline	100-01-6	NA NA		ΝΑ		NA	NA	9.00E+03	¥	_	9.00E+03
4,6-dinitro-2-methylphenol	534-52-1	Υ _Α		3.65E-01	nc	3.65E-01	AA	5.00E+02	¥	L	5.00E+02
n-nitrosodiphenylamine(1)	86-30-6	1.37E+00	υ	1.28E+00	ပ	1.37E+00	NA	NA	¥		AN
4-bromophenyl-phenylether	101-55-3	A A		Y Y		AN	NA	NA	ΝA		AN
nexachlorobenzene	118-74-1	4.18E-03	υ	3.91E-03	ပ	4.18E-03	NA	7.50E+01	ΝA	F	7.50E+01
pentachlorophenol	87-86-5	5.60E-02	υ	5.22E-02	ပ	5.60E-02	NA	1.50E+03	AA	F	1.50E+03
pnenantirene	85-01-8	AN		NA A		Y Y	NA	2.00E+03	NA	-	2.00E+03
anthracene	120-12-7	1.10E+03	nc	1.10E+03	2	1.10E+03	NA	6.00E+03	NA	⊢	6.00E+03
di-n-butyiphthalate	84-74-2	3.65E+02	2	3.65E+02	2	3.65E+02	NA	1.50E+04	NA	L	1.50E+04
liuorantnene	206-44-0	1.46E+02	2	1.46E+02	2	1.46E+02	NA	3.00E+01	NA	⊢	3.00E+01
pyrene h. trille === (1=hthe)===	129-00-0	1.10E+02	20	1.10E+02	5	1.10E+02	NA	1.50E+04	NA	⊥	1.50E+04
butylbenzylpi iirialate	/-80-68	7.30E+0Z	ဥ	7.30E+02	20	7.30E+02	Ϋ́	5.00E+05	A A	T	5.00E+05
penzo(a)anthracene	56-55-3	2.17E-02	O		U	2.17E-02	NA	6.00E+02	NA	F	6.00E+02
chrysene	218-01-9	2.17E+00	U	8.58E-01	ပ	2.17E+00	NA	2.00E+02	¥	۲	2.00E+02
3,3-dichlorobenzidine	91-94-1	1.50E-02	U	1.39E-02	ပ	1.50E-02	NA	6.21E+03	ΑĀ	⊢	6.21E+03
Dis(2-ethylnexyl)phthalate	117-81-7	4.80E-01	ပ	4.47E-01	ပ	4.80E-01	NA	1.00E+04	ΑN	⊢	1.00E+04
di-n-octylphthalate	117-84-0	7.30E+01	2	7.30E+01	nc S	7.30E+01	NA	1.50E+05	ΑĀ	F	1.50E+05
Denzo(b)fluorantnene	205-99-2	2.17E-02	O	8.58E-03	٥	2.17E-02	NA	NA	NA		NA
Denzo(k)illuorantnene	6-80-707	2.17E-01	ပ	8.58E-02	٥	2.17E-01	ΝA	AN	NA		AN
penzo(a)pyrene	20-32-8	2.17E-03	O	2.02E-03	S	2.17E-03	AA	7.50E+03	NA	L	7.50E+03

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

Compound	cas#	Region 9 PRG (ug/m³)	Toxicity Endpoint (c or nc)	Region 3 RBC (µg/m³)	Toxicity Endpoint (c or no)	:- HBSL (Lig/m³)	ERPG (ug/m³)	, TEEL: (µg/m³)	AEGL (ug/m³)	Source (Tor.E)	ATV (µg/m³)
indeno(1,2,3-cd)pyrene	193-39-5	2.17E-02	ပ	8.58E-03	၁	2.17E-02	NA	NA	NA		ΑN
dibenz(a,h)anthracene	53-70-3	2.17E-03	၁	8.58E-04	၁	2.17E-03	NA	3.00E+04	NA	⊢	3.00E+04
benzo(g,h,i)perylene	191-24-2	NA		ΑN		NA	NA	3.00E+04	NA	L	3.00E+04
10-13 (PAHS)	01.20.3	3 13 14 100	J.C	3 20E+00	٢	3 13E+00	ΔN	7 REE+04	MA	-	7 86F±04
napimalene	208 96 B	NA NA	2	NA	2	NA	AN	2 00E+02	ΔN	- -	2 00F+02
Aceraphitene	83-32-0	2 19F+02	50	2 19F+02	2	2 19F+02	Z Z	1.25E+03	Y Y	-	1.25E+03
fliorene	86-73-7	1.46E+02	2	1.46E+02	2	1.46E+02	¥ Y	7.50E+04	¥.	⊢	7.50E+04
phenanthrene	85-01-8	AN		¥.		ΑN	¥	2.00E+03	ΑĀ	⊢	2.00E+03
anthracene	120-12-7	1.10E+03	2	1.10E+03	DL.	1.10E+03	AN	6.00E+03	NA	T	6.00E+03
fluoranthene	206-44-0	1.46E+02	nc	1.46E+02	uc	1.46E+02	NA	3.00E+01	NA	⊥	3.00E+01
pyrene	129-00-0	1.10E+02	nc	1.10E+02	ou	1.10E+02	NA	1.50E+04	NA	_	1.50E+04
benzo(a)anthracene	56-55-3	2.17E-02	၁	8.58E-03	0	2.17E-02	NA	6.00E+02	NA	⊢	6.00E+02
chrysene	218-01-9	2.17E+00	၁	8.58E-01	၁	2.17E+00	NA	2.00E+02	NA	⊢	2.00E+02
benzo(b)fluoranthene	205-99-2	2.17E-02	ပ	8.58E-03	2	2.17E-02	NA	NA	NA		NA
benzo(k)fluoranthene	207-08-9	2.17E-01	ပ	8.58E-02	2	2.17E-01	NA	NA	Ν		NA
Benzo(e)pyrene	192-97-2	ΝA		NA		NA	NA	NA	NA		NA
benzo(a)pyrene	50-32-8	2.17E-03	S	2.02E-03	၁	2.17E-03	NA	7.50E+03	NA	_	7.50E+03
indeno(1,2,3-cd)pyrene	193-39-5	2.17E-02	ပ	8.58E-03	၁	2.17E-02	NA	NA	NA		NA
dibenz(a,h)anthracene	53-70-3	2.17E-03	၁	8.58E-04	၁	2.17E-03	NA	3.00E+04	AN	⊢	3.00E+04
benzo(g,h,i)perylene	191-24-2	AN		NA		NA	NA	3.00E+04	AN	-	3.00E+04
Dioxins and Furans											
2378-Tetrachlorodibenzo-p-dioxin	1746-01-6	4.48E-08	ပ	4.17E-08	υ	4.48E-08	¥	3.50E+00	Y Y	-	3.50E+00
12378-Pentachlorodibenzo-p-dioxin	40321-76-4	AN		ΝΑ		Ϋ́	¥	2.50E+00	ΑN	⊢	2.50E+00
123478-Hexachlorodibenzo-p-dioxin	39227-28-6	NA		Ϋ́		Ϋ́	¥	A A	ΑN		Ϋ́
123678-Hexachlorodibenzo-p-dioxin	57653-85-7	NA		AN		NA	ΝA	1.50E+01	AN	⊢	1.50E+01
123789-Hexachlorodibenzo-p-dioxin	19408-74-3	1.48E-06	ပ	1.38E-06	ပ	1.48E-06	NA	NA	Y Y		Ϋ́
1234678-Heptachlorodibenzo-p-dioxin	35822-46-9	ΝΑ		AN		NA	NA	NA	AN		AN
Octachlorodibenzo(p)dioxin	3268-87-9	AN		AN		NA	NA	1.50E+02	A) —	1.50E+02
2378-Tetrachlorodibenzo-p-furan	51207-31-9	AN		AN		NA	NA	2.00E+00	¥	⊢	2.00E+00
12378-Pentachlorodibenzo-p-furan	57117-41-6	AN		AN		· NA	NA	NA	A		AN
23478-Pentachlorodibenzo-o-furan	57117-31-4	NA		AN		NA	AA	7.50E-02	Ą	⊢	7.50E-02
123478-Hexachlorodibenzo-p-furan	70648-26-9			ΑN		NA	AN	7.50E+00	NA	⊢	7.50E+00
123678-Hexachlorodibenzo-p-furan	57117-44-9	AN		A A		Y Y	NA	2.50E+00	¥	⊢	2.50E+00
123789-Hexachlorodibenzo-p-furan	72918-21-9	NA		NA		NA	Y Y	NA NA	¥ V		NA

Appendix C: Health-Based Screening Levels and Acute Toxicity Values

NA			Region 9	Toxicity	Region 3	Toxicity.	4.7					
NA NA NA NA 1.50E+00 NA T NA NA NA NA NA T 2.09E+00 NA NA NA T 3.65E+01 nc 3.65E+01 NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T </th <th>22 1 1 1 W</th> <th>200 April 25 Car</th> <th>rkG (µg/m³)</th> <th>enapoint (c or nc)</th> <th>·κΒς» (μg/m³)</th> <th>endpoint (c,ornc)</th> <th>HBSL (m/bn)</th> <th>ERPG (ug/m³)</th> <th>·102.23</th> <th>* AEGĽ (µg/m³)</th> <th>Source (T or E)</th> <th>ATV (Lig/m³)</th>	22 1 1 1 W	200 April 25 Car	rkG (µg/m³)	enapoint (c or nc)	·κΒς» (μg/m³)	endpoint (c,ornc)	HBSL (m/bn)	ERPG (ug/m³)	·102.23	* AEG Ľ (µg/m³)	Source (T or E)	ATV (Lig/m ³)
NA T T NA NA NA T T NA T NA T NA T NA	60851-34-5	ιÇ	ΑN		A A		AN	NA		NA	F	1 50E+00
NA T T NA T NA T NA	67562-39-4	4	AN		ΑΝ		ΑΝ	NA	¥	NA		NA
NA NA NA NA T 2.09E+00 nc 2.19E+00 nc 2.09E+00 NA 1.51E+04 NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 4.80E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 4.80E+01 nc 3.65E+01 nc 4.80E+01 NA NA NA T 3.65E+01 nc 3.65E+01 NA 3.00E+02 NA T T 3.65E+01 nc 3.65E+01 NA 3.00E+02 NA T T 4.80E+02 nc 1.10E+02 NA 3.00E+02 NA T T 4.1E-02 nc 1.10E+02 NA NA NA NA NA NA NA NA </td <td>55673-89-7</td> <td>9-7</td> <td>NA</td> <td></td> <td>Ϋ́</td> <td></td> <td>¥</td> <td>Ϋ́</td> <td>ΑN</td> <td>ĄZ</td> <td></td> <td>AN</td>	55673-89-7	9-7	NA		Ϋ́		¥	Ϋ́	ΑN	ĄZ		AN
2.09E+00 nc 2.09E+00 nc 3.65E+01 nc nc 3.65E+01 nc nc 3.65E+01 nc nc <td>39001-02-0</td> <td>2-0</td> <td>ΑN</td> <td></td> <td>ΑN</td> <td></td> <td>¥</td> <td>¥</td> <td>3.00E+02</td> <td>AA</td> <td> -</td> <td>3 00F+02</td>	39001-02-0	2-0	ΑN		ΑN		¥	¥	3.00E+02	AA	-	3 00F+02
2.09E+00 nc 2.09E+00 nc 1.51E+04 NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA NA 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 4.80E-01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 4.80E-01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA 3.00E+03 NA T 7.30E+00 nc 3.65E+00 nc 7.30E+00 NA 6.00E+02 NA T 7.30E+00 nc 7.30E+00 nc 7.30E+00 NA 8.00E+02 NA T 1.10E+02 nc 1.10E+02 NA NA NA NA NA NA NA NA NA NA NA NA <td></td> <td>20.7000</td>												20.7000
3.65E+01 nc 3.65E+01 NA NA NA NA 3.65E+01 nc 7.30E+01 nc 3.65E+01 NA NA NA T 3.65E+01 nc 7.30E+01 nc 3.65E+01 NA NA NA T 4.80E-01 nc 3.65E+01 nc 4.80E-01 NA NA NA T 3.65E-01 nc 3.65E+00 nc 3.65E+00 NA NA NA T 3.65E-01 nc 3.65E+00 nc 3.65E+00 NA NA T 7.30E+00 nc 7.30E+00 nc 7.30E+00 NA 3.00E+02 NA T 1.10E+02 nc 1.10E+02 nc 1.10E+02 NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA	98-92-3	3	2.09E+00	JC	2.19E+00	20	2.09E+00	Y.	1.51E+04	¥	-	1.51E+04
3.65E+01 nc 7.30E+01 nc 3.65E+01 nc 4.80E-01 nc 1.85E+02 nc 1.85E+03 nc 1.83E+03 nc <th< td=""><td>88-72-2</td><td>2</td><td>3.65E+01</td><td>22</td><td>3.65E+01</td><td>2</td><td>3.65E+01</td><td>Ą</td><td>AN</td><td>¥</td><td></td><td>AN</td></th<>	88-72-2	2	3.65E+01	22	3.65E+01	2	3.65E+01	Ą	AN	¥		AN
3.65E+01 nc 3.65E+01 nc 3.65E+01 NA 3.37E+04 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 3.00E+03 NA T 3.65E-01 nc 3.65E-01 NA 3.00E+02 NA T 3.65E+00 nc 3.65E+00 nc 3.65E+00 NA 6.00E+02 NA T 7.30E+00 nc 7.30E+00 nc 7.30E+00 NA 6.00E+02 NA T 1.10E+02 nc 1.10E+02 NA 3.00E+04 NA T 2.24E-01 c 2.24E-01 NA NA NA T NA NA NA NA NA NA NA T 8.65E+01 nc 1.83E+02 NA NA NA NA NA NA NA NA NA NA NA NA NA 1.83E+02 nc 1.83E+02	99-08-1	-	3.65E+01	nc	7.30E+01	nc	3.65E+01	Ϋ́	NA NA	¥		₹ Z
4.80E-01 c 4.47E-01 c 4.80E-01 NA NA NA NA 3.65E-01 nc 3.65E-01 nc 3.65E-01 NA 3.00E+03 NA T 3.65E+00 nc 3.65E+00 nc 3.65E+00 NA 6.00E+02 NA T 7.30E+00 nc 7.30E+00 nc 7.30E+00 NA 6.00E+02 NA T 1.10E+02 nc 1.10E+02 NA 3.00E+04 NA T 2.24E-01 c 2.24E-01 NA 3.00E+04 NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA NA T NA NA NA NA NA NA NA T NA NA NA NA NA NA NA NA 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA A.80E-02 nc <	0-66-66	0	3.65E+01	nc	3.65E+01	JL	3.65E+01	¥	3.37E+04	ΑN	-	3.37E+04
3.65E-01 nc 3.65E-01 NA 3.00E+03 NA T 3.65E+00 nc 3.65E+00 NA 6.00E+02 NA T 7.30E+00 nc 7.30E+00 NA 6.00E+02 NA T 1.10E+02 nc 1.10E+02 NA 6.00E+02 NA T 2.24E-01 c 2.09E-01 c 2.24E-01 NA NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA NA NA T NA NA NA NA NA NA T NA T 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA NA 1.83E+02 nc 3.65E+01 NA NA NA NA NA 1.83E+02 nc 1.83E+02 NA NA NA NA NA 4.80E-01 nc 3.65E+02 NA NA NA<	55-63-0	0	4.80E-01	ပ	4.47E-01	O	4.80E-01	ΑĀ	AN	¥		₹Z
3.65E+00 nc 3.65E+00 NA 6.00E+02 NA T 7.30E+00 nc 7.30E+00 NA 6.00E+02 NA T 1.10E+02 nc 1.10E+02 NA 6.00E+04 NA T 2.24E-01 c 2.09E-01 c 2.24E-01 NA NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA NA NA T NA NA NA NA NA NA NA T 8.65E+01 nc 3.65E+01 nc 1.83E+02 NA NA NA 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA A.80E+01 nc 3.65E+02 nc 3.65E+02 NA NA NA 4.80E-01 nc 4.80E-01 NA 1.00E+04 NA T 4.80E-01 nc 3.13E+01 nc 3.05E+02 NA NA </td <td>99-62-0</td> <td></td> <td>3.65E-01</td> <td>nc</td> <td>3.65E-01</td> <td>DL</td> <td>3.65E-01</td> <td>Α̈́</td> <td>3.00E+03</td> <td>¥</td> <td> -</td> <td>3.00E+03</td>	99-62-0		3.65E-01	nc	3.65E-01	DL	3.65E-01	Α̈́	3.00E+03	¥	-	3.00E+03
7.30E+00 nc 7.30E+00 NA 6.00E+02 NA T 1.10E+02 nc 1.10E+02 NA 3.00E+04 NA T 2.24E-01 c 2.24E-01 NA 2.50E+04 NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA NA NA T NA NA NA NA NA NA T NA NA NA NA NA T 1.83E+02 nc 3.65E+01 NA NA NA T NA NA NA NA NA NA T 3.65E+02 nc 1.83E+02 NA NA NA NA NA NA NA NA NA NA T 4.80E-01 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 nc 3.65E+02 NA 1.50E+04 NA T <td>606-20-2</td> <td>2</td> <td>3.65E+00</td> <td>nc</td> <td>3.65E+00</td> <td>JU</td> <td>3.65E+00</td> <td>¥</td> <td>6.00E+02</td> <td>¥</td> <td> -</td> <td>6.00E+02</td>	606-20-2	2	3.65E+00	nc	3.65E+00	JU	3.65E+00	¥	6.00E+02	¥	-	6.00E+02
1.10E+02 nc 1.10E+02 NA 3.00E+04 NA T 2.24E-01 c 2.09E-01 c 2.24E-01 NA NA NA NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA NA NA T NA NA NA NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA NA 3.65E+02 nc 3.65E+02 nc 1.83E+02 NA NA NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 1.00E+04 NA T	121-14-2	7	7.30E+00	nc on	7.30E+00	nc	7.30E+00	AN	6.00E+02	AN	-	6.00E+02
2.24E-01 c 2.24E-01 NA 2.50E+04 NA T 6.11E-02 c 5.69E-02 c 6.11E-02 NA	99-35-4	_	1.10E+02	nc	1.10E+02	nc	1.10E+02	ΑA	3.00E+04	AN	Ŀ	3.00E+04
6.11E-02 c 5.69E-02 c 6.11E-02 NA NA NA NA NA NA NA NA NA T NA NA NA NA NA NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA NA 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA T 3.65E+02 nc 3.65E+02 nc 3.65E+02 NA 1.50E+01 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	118-96-7	7	2.24E-01	ဝ	2.09E-01	ပ	2.24E-01	ΑN	2.50E+04	ΑN	F	2.50E+04
NA T 3.65E+01 nc 3.65E+01 nc 3.65E+01 NA NA NA T 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA T 3.65E+02 nc 3.65E+02 nc 3.65E+02 NA 1.50E+01 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	121-82-4	4	6.11E-02	o	5.69E-02	ပ	6.11E-02	ΑN	ΑN	AN		AN
NA NA NA NA 1.50E+04 NA T 3.65E+01 nc 3.65E+01 NA NA NA NA NA 1.83E+02 nc 1.83E+02 nc 1.83E+02 NA NA NA NA 3.65E+02 nc 3.65E+02 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 nc 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	19406-51-0	의	NA		AN		NA	NA	AN A	ΑĀ		AN
3.65E+01 nc 3.65E+01 NA T 1.83E+02 nc 1.83E+02 NA 1.83E+02 NA NA NA T 3.65E+02 nc 3.65E+02 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	35572-78-2	8-2	¥		NA		NA	NA	1.50E+04	ΑN	 -	1.50E+04
1.83E+02 nc 1.83E+02 NA NA NA NA NA T NA NA NA 5.00E+01 NA T 3.65E+02 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	479-45-8	ထု	3.65E+01	nc	3.65E+01	nc	3.65E+01	ΑN	ΑN	NA		ΑZ
NA NA NA NA 5.00E+01 NA T 3.65E+02 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	2691-41-0	인	1.83E+02	nc	1.83E+02	nc	1.83E+02	ΝA	Ϋ́	ΑN		AN
3.65E+02 nc 3.65E+02 nc 3.65E+02 NA 1.50E+04 NA T 4.80E-01 c 4.47E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	78-11-5	5	AA		NA AN		ΑN	Ϋ́	5.00E+01	ž	-	5.00E+01
4.80E-01 c 4.80E-01 NA 1.00E+04 NA T 9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	84-74-2	2	3.65E+02	nc	3.65E+02	ПС	3.65E+02	ΑN	1.50E+04	¥	-	1.50E+04
9.13E+01 nc 9.13E+01 nc 9.13E+01 NA 3.00E+04 NA T	117-81-7	1-7	4.80E-01	ပ	4.47E-01	ပ	4.80E-01	NA	1.00E+04	¥	-	1.00E+04
	122-39-4	4	9.13E+01		9.13E+01	20	9.13E+01	Ϋ́	3.00E+04	¥	-	3.00E+04

-ootnotes:

PRG = Preliminary Remediation Goals

c = cancer

nc = non-cancer

RBC = Risk-Based Concentration

HBSL = Health-Based Screening Level

(E) ERPG = Emergency Response Planning Guidelines (T) TEEL = Temporary Emergency Exposure Limits (A) AEGL = Acute Exposure Guideline Level

ATV = Acute Toxicity Value

NA = Not Available

APPENDIX D RISK ASSESSMENT DATA

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56-r DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Permanent Gases								
Ammonia (NH3)	9.62E+00	1.04E+02	9.23E-02	no	5.85E+01	1.75E+04	3.34E-03	ဥ
Carbon Dioxide (CO2)	2.67E+02	N		na	6.49E+03	5.40E+07	1.20E-04	2
Carbon Monoxide (CO)	4.90E+02	1.00E+04	4.90E-02	no	2.98E+03	2.30E+05	1.29E-02	2
Oxides of Nitrogen (as NO)	2.39E+01	1.00E+02	2.39E-01	on	5.82E+02	3.08E+04	1.89E-02	9
Sulfur Dioxide (SO2)	NA	8.00E+01		na	ΑN	7.89E+02		na
Acid Gases								
Hydrogen fluoride	NA	N		na	NA	1.60E+03		na
Hydrogen chloride	AN	2.08E+01		na	NA	4.50E+03		na
Hydrogen bromide	NA NA	N		na	NA	9.93E+03		na
Nitric Acid	NA	≥N		na	NA	1.30E+03		na
Phosphoric acid	AN	1.04E+01		na	NA	3.00E+03		na
Sulfuric Acid	1.45E-01	N/		na	8.79E-01	2.00E+03	4.40E-04	OL OL
Cyanide								
Particulate Cyanide	3.15E-02	7.30E+01	4.32E-04	no	7.66E-01	5.00E+03	1.53E-04	o
Hydrogen Cyanide	6.10E+00	3.13E+00	1.95E+00	yes	1.48E+02	5.17E+03	2.87E-02	DD
Particulates								
Total Suspended Particulate	1.18E+01	5.00E+01	2.35E-01	no	7.15E+01	NA		na
PM10	1.21E+01	5.00E+01	2.42E-01	01	7.36E+01	NA		na
PM2.5	8.95E+00	1.50E+01	5.97E-01	2	5.44E+01	AA		na
Metals								
Aluminum	3.53E-02	5.11E+00	6.91E-03	2	8.59E-01	3.00E+04	2.86E-05	2
Antimony	4.57E-01	1.46E+00	3.13E-01	2	1.11E+01	1.50E+03	7.41E-03	2
Arsenic	NA	4.47E-04		ВE	NA	3.00=+01	30 107 0	g
Barium	1.33E-01	5.21E-01	2.56E-01	2	3.25E+00	1.50E+03	2.16E-03	2
Beryllium	NA	8.00E-04		na	NA	5.00E+00		na
Cadmium	NA	1.07E-03		na	NA	3.00E+01		na
Calcium	1.12E-01	NV		па	2.73E+00	3.00E+04	9.09E-05	2
Chromium	NA	1.53E-04		na	NA	1.50E+03		na
Cobalt	NA	2.20E+02		na	NA	6.00E+01		na
Copper	4.48E+00	1.46E+02	3.07E-02	2	1.09E+02	3.00E+03	3.63E-02	2
Lead	1.23E+00	1.50E+00	8.20E-01	6	2.99E+01	1.50E+02	2.00E-01	2
Magnesium	NA	N		па	ΑN	3.00E+04		na
Manganese	NA	5.11E-02		na	NA	3.00E+03		na

		Cartri	idge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	I16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Nickel	NA	7.30E+01		Б	ΑN	3.00E+03		na
Selenium	NA	1.83E+01		na	AN	6.00E+02		L L
Silver	NA	1.83E+01		na	AN	3.00E+02		na
Thallium	NA	2.56E-01		na	AN	3.00E+02		Ba
Vanadium	NA	2.56E+01		na	ΝΑ	1.50E+02		ag
Zinc	5.88E-01	1.10E+03	5.37E-04	20	1.43E+01	3.00E+04	4.77E-04	2
TO-11 Carbonyls								
Formaldehyde	7.76E-03	1.48E-01	5.25E-02	9	1.10E-01	1.23E+03	8.95E-05	2
Acetaldehyde	NA	8.73E-01		na	NA	1.80E+04		na Eu
Acetone	NA	3.65E+02		na	AN	2.37E+06		na
Acrolein	NA	2.09E-02		na	NA	2.30E+02		na E
Proprionaldehyde	3.53E-03	ΛN		na	8.58E-02	7.50E+04	1.14E-06	2
Crotonaldehyde	NA	3.54E-03		na	ΑN	5.72E+03		na
Butyraldehyde	NA	ΛN		na	AN	7.38E+04		na
Benzaldehyde	NA	3.65E+02		na	ΑN	1.50E+04		na
Isovaleraldehyde	NA	NV		na	NA	AN		na
Valeraldehyde	NA	NV		na	NA	NA		na
o,m,p-Tolualdehyde	NA	NV		na	AA	NA		na
Hexaldehyde	NA	NV		na	NA	NA		na
2,5-Dimethylbenzaldehyde	NA	N		na	NA	ΝΑ		na
VOCs								
Propene	2.77E-02	N		na	1.68E-01	NA		a
Dichlorodifluoromethane	1.24E-04	2.09E+02	5.96E-07	0	3.02E-03	1.48E+07	2.04E-10	2
Chlorodifluoromethane	NA	5.11E+04		na	NA	4.41E+06		na
Freon 114	NA	N		na	NA	2.10E+07		na
Chloromethane	3.66E-04	1.07E+00	3.43E-04	no O	2.08E-02	2.06E+05	1.01E-07	2
Vinyl Chloride	AN AN	2.20E-02		na	NA	1.28E+04		na
1,3-Butadiene	1.11E-03	3.74E-03	2.98E-01	no	1.58E-02	2.20E+04	7.17E-07	2
Bromomethane	ΨN	5.21E+00		na	NA	5.82E+04		na
Chloroethane	AN	2.32E+00		na	NA	2.64E+06		na
Dichlorofluoromethane	NA AA	2.09E+02		na	NA	1.48E+07		na
Trichlorofluoromethane	NA	7.30E+02		na	NA	2.81E+06		па
Pentane	¥.	2		na	NA	1.80E+06		na
Acrolein	NA	2.09E-02		na	ΝΑ	2.30E+02		na

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56-l DO	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 12
1,1-Dichloroethene	NA	5.21E+02		na	NA	7.92E+04		na
Freon 113	NA	3.13E+04		na	NA	9.58E+06		na
Acetone	3.01E-01	3.65E+02	8.24E-04	ou	7.31E+00	2.37E+06	3.09E-06	no
Methyl lodide	NA	NN.		na	NA	1.45E+05		na
Carbon Disulfide	NA	7.30E+02		na	NA	3.11E+04		na
Acetonitrile	6.90E-02	6.20E+01	1.11E-03	0	1.68E+00	1.01E+05	1.67E-05	on 0
3-Chloropropene	NA	1.04E+00		na	ΑΝ	9.39E+03		Па
Methylene Chloride	1.07E-02	4.09E+00	2.62E-03	no	1.52E-01	6.96E+05	2.18E-07	9
tert-Butyl Alcohol	1.76E-03	۸N		na	4.29E-02	4.55E+05	9.43E-08	92
Acrylonitrile	8.26E-03	2.83E-02	2.92E-01	no	1.17E-01	2.17E+04	5.40E-06	no
trans-1,2-Dichloroethene	NA	7.30E+01		na	NA	4.95E+04		na
Methyl t-Butyl Ether	5.67E-05	3.13E+03	1.81E-08	ou	1.38E-03	4.32E+05	3.19E-09	no
Hexane	1.91E-01	2.09E+02	9.18E-04	no	4.66E+00	5.28E+05	8.82E-06	ou
1,1-Dichloroethane	NA	5.21E+02		na	NA	1.21E+06		na
Vinyl Acetate	NA	2.09E+02		na	NA V	1.92E+04		na
cis-1,2-Dichloroethene	NA	3.65E+01		na	NA	7.92E+05		na
2-Butanone	NA	1.04E+03		na	NA	8.85E+05		na
Ethyl Acetate	4.27E-03	3.29E+03	1.30E-06	OU	1.04E-01	1.44E+06	7.21E-08	9
Methyl Acrylate	NA	1.10E+02		na	NA	NA		na
Chloroform	NA	8.35E-02		na	NA	9.76E+03		na
1,1,1-Trichloroethane	9.52E-04	1.04E+03	9.13E-07	00	5.79E-03	1.94E+06	2.98E-09	2
Carbon Tetrachloride	ΝΑ	1.28E-01		na	NA	1.28E+05		na
1,2-Dichloroethane	2.05E-03	7.39E-02	2.78E-02	20	1.17E-01	8.08E+03	1.44E-05	2
Benzene	8.87E-02	2.4	3.56E-01	20	1.26E+00	1.56E+05	8.07E-06	on O
Isooctane (2,2,4-trimethylpentane)	AA			na	NA	3.50E+05		na
Heptane	6.44E-05			na	1.57E-03	1.80E+06	8.69E-10	on O
Trichloroethane	NA	1.04E+03		na	AA	1.94E+06		na
Ethyl Acrylate	NA	1.40E-01		na	NA	6.14E+04		na
1,2-Dichloropropane	NA			na	NA	5.08E+05		na
Methyl Methacrylate	NA			na	NA	4.09E+05		na
Dibromomethane	NA	3.65E+01		na	Y V	2.50E+05		na
1,4-Dioxane	NA	6.11E-01		ē	ΑΝ	9.00E+04		na
Bromodichloromethane	NA	1.08 E -01		na	AN	4.00E+03		na
4-Methyl-2-Pentanone	AN	8.34E+01		па	Y V	3.07E+05		na

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56- DO	mm B	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	(16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	× 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Toluene	9.70E-03	4.02E+02	2.42E-05	2	5.90E-02	1.88E+05	3.15E-07	2
Octane	8.15E-04	NV		na	4.96E-03	NA		na
trans-1,3-Dichloropropene	NA	5.17E-02		na	AN	AN		na
Ethyl Methacrylate	NA	3.29E+02		na	AN	AN		na
1,1,2-Trichloroethane	NA	1.20E-01		na	Ϋ́	1.64E+05		na
Tetrachloroethene	NA	3.31E+00		па	NA	6.78E+05		na
2-Hexanone	NA	5.11E+00		na	AN	4.09E+04		na
Dibromochloromethane	NA	8.00E-02		na	NA	6.00E+03		na
1,2-Dibromoethane	NA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA	6.21E+01		na	NA	1.38E+05		па
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		na
Ethylbenzene	8.97E-04	1.06E+03	8.48E-07	OL	2.18E-02	5.43E+05	4.02E-08	ou
m&p-Xylene	1.22E-03	7.30E+02	1.67E-06	00	2.97E-02	6.51E+05	4.57E-08	on O
o-Xylene	1.53E-03	7.30E+02	2.09E-06	no	3.72E-02	6.51E+05	5.71E-08	92
Styrene	2.01E-03	1.06E+03	1.90E-06	no	1.22E-02	2.13E+05	5.73E-08	20
Bromoform	NA	1.75E+00		na	NA	6.20E+03		na
Cumene	NA	4.02E+02		na	NA	2.46E+05		na
1,1,2,2-Tetrachloroethane	NA	3.31E-02		na	NA	2.06E+04		na
1,2,3-Trichloropropane	NA	9.61E-04		na	NA	6.03E+04		na
Bromobenzene	NA	1.04E+01		na	NA	4.82E+04		na
4-Ethyltoluene	1.14E-03	N		na	2.78E-02	1.25E+05	2.22E-07	2
1,3,5-Trimethylbenzene	¥	6.21E+00		na	NA	3.68E+05		na
Alpha Methyl Styrene	NA STO	2.56E+02		na	NA	NA		na
1,2,4-i rimetnyibenzene	1.43E-03	6.21E+00	2.30E-04	2	3.48E-02	1.80E+05	1.93E-07	no
1,3-Dichlorobenzene	Y.	3.29E+00		na	A V	3.61E+04		na
1,4-Dichlorobenzene	Ϋ́	3.06E-01		na	AA	6.61E+05		na
Benzyl Chloride	NA	3.96E-02		na	NA	5.20E+03		na
1,2-Dichlorobenzene	ΝΑ	2.09E+02		na	AN	3.01E+05		na
Hexachlorethane	NA	4.80E-01		na	NA	2.90E+04		na
1,2,4-Trichlorobenzene	NA	2.08E+02		na	NA	3.71E+04		na
Hexachlorobutadiene	AN	8.73E-02		Б	NA	3.21E+04		na
Hydrocarbons								
Methane	2.98E+00	N/		ē	7.25E+01	3.30E+06	2.20E-05	no

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

Cennole (Lightina) Health-Based (Lightina) Cennole (Lightina) A value (Lightina) Value (Lightina) Value (Lightina) Value (Lightina) Value (Lightina) Value (Lightina) Cennole (Lightina) Cennole (Lightina) Cennole (Lightina) A value (Lightina) Cennole (Lig			Cartri	dge, 5.56-1 DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
2.22E-01 NV na 5.41E+00 4.60E+05 1.18E-05 1.18E-0	Compound	C _{chronle} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 12
3.11E-02 NV	Ethylene	2.22E-01	N		na	5.41E+00	4.60E+05	1.18E-05	no
126E-01	Acetylene	3.11E-02	Ž		na	1.89E-01	NA		na
3.31E-02 NV	Ethane	1.26E-01	N		na	7.69E-01	NA		na
NA	Propylene	3.31E-02	N		na	2.01E-01	NA		na
NA	Propane	NA	N		na	NA	3.78E+06		na
NA	Propyne (methyl acetylene)	NA	N		na	NA	2.79E+06		na
NA	Isobutane	NA	N N		na	NA	9.52E+05		na
NA 3.74E-03 na NA 2.20E+04 NA NV na NA 1.72E+04 NA NV na NA 1.80E+06 NA 1.37E-04 na NA 1.80E+06 NA 1.37E-03 na NA 2.50E+03 NA 1.82E-03 na NA 2.50E+04 NA 1.82E-03 na NA 3.8EE+04 NA 1.82E-03 na NA 3.8EE+04 NA 1.82E-03 na NA 3.5EE+04 NA 1.82E-03 na NA 3.6EE+04 NA 1.92E-01 na NA 3.6EE+04 NA 1.92E-01 na NA 3.0E+05<	1-Butene/Isobutylene (115-11-7)	AN	N		na	NA	6.87E+06		па
NA NV na NA 1.72E+04 NA NA NA NA NA NV na NA NA NA NV na NA NA NA NA NV na NA 1.80E+06 3.72E-06 NA 1.37E-04 na NA 2.58E+05 3.72E-06 NA 1.37E-04 na NA 2.58E+05 3.72E-06 NA 1.37E-04 na NA 2.58E+05 3.72E-06 NA 1.32E-03 na NA 3.85E+04 3.72E-06 NA 1.32E+03 na NA 3.85E+04 3.72E-06 NA 1.32E+03 na NA 3.85E+04 3.72E-06 NA 1.32E+03 na NA 3.61E+04 3.72E-06 NA 1.06E-03 na NA 3.01E+05 3.72E-06 NA 1.06E-03 na NA 3.01E+05 3.72E-06 <td>1.3-Butadiene/butane</td> <td>AN</td> <td>3.74E-03</td> <td></td> <td>na</td> <td>NA</td> <td>2.20E+04</td> <td></td> <td>na</td>	1.3-Butadiene/butane	AN	3.74E-03		na	NA	2.20E+04		na
NA NA NA NA NA 1.72E+04 NA NA 1.72E+04 NA NA 1.72E+04 NA NA 1.80E+06 8.08E-02 2.10E+02 3.85E-04 no 1.97E+00 5.28E+06 NA 1.37E-04 no 1.97E+00 5.28E+06 3.72E-06 NA 2.19E+03 na NA 2.50E+03 na NA 1.32E+03 na NA 3.61E+04 na NA 3.20E+01 na NA 3.61E+04 na NA 3.20E+02 na NA 3.61E+04 na NA 3.20E+01 na NA 3.61E+04 na NA 1.92E+02 na NA 3.01E+05 na NA 1.92E+02 na NA 3.01E+06 na NA 1.82E+02 na NA 3.01E+06 na NA 1.82E+02 na <t< td=""><td>cis-butene</td><td>NA</td><td>N N</td><td></td><td>na</td><td>NA</td><td>1.72E+04</td><td></td><td>na</td></t<>	cis-butene	NA	N N		na	NA	1.72E+04		na
NA NV na NA 1,72E+04 NA NA NA NA NA NA NA 1,80E+06 3.72E+04 NA 8.08E-02 2.10E+02 3.85E-04 no 1.97E+00 5.28E+05 3.72E-06 NA 1.37E-04 no NA 2.50E+03 3.72E-06 3.72E-06 NA 2.19E+03 no NA 2.50E+04 3.72E-06 3.72E-06 NA 1.83E+01 no NA 3.85E+04 3.72E-06 3.72E-06 NA 1.83E+01 no NA 3.61E+04 3.72E-06 3.72E-06 NA 3.06E-01 no NA 3.61E+04 3.72E-06 3.72E-06 NA 1.02E+02 no NA 3.01E+04 0.72E-04 0.72E-04 </td <td>1-Butyne</td> <td>AN</td> <td>2</td> <td></td> <td>na</td> <td>NA</td> <td>NA</td> <td></td> <td>na</td>	1-Butyne	AN	2		na	NA	NA		na
NA NA NA NA NA NA na NA 1.80E+06 8.08E-02 2.10E+02 3.85E-04 no 1.87E+00 5.28E+05 NA 1.37E-04 na NA 2.50E+03 NA 5.82E-03 na NA 5.85E+04 NA 1.83E+03 na NA 5.85E+04 NA 1.83E+03 na NA 5.25E+03 NA 3.29E+00 na NA 5.25E+03 NA 3.29E+00 na NA 5.25E+03 NA 3.06E-01 na NA 5.25E+03 NA 3.06E-01 na NA 5.53E+04 NA 1.10E+03 na NA 5.53E+04 NA 1.83E+02 na NA 2.00E+02 NA 1.83E+02 na NA 2.00E+02 NA 1.83E+04 na NA 1.51E+04 NA 1.83E+02 na	trans-Butene	NA	N		na	NA	1.72E+04		na
NÁ NV na NA 1.80E+06 8.08E-02 2.10E+02 3.85E-04 no 1.97E+00 5.28E+05 NA 1.37E-04 na NA 2.50E+03 NA 2.19E+03 na NA 5.85E+04 NA 1.83E+01 na NA 5.85E+04 NA 1.83E+01 na NA 5.25E+03 NA 1.83E+01 na NA 5.25E+03 NA 3.29E+00 na NA 5.25E+03 NA 3.06E-01 na NA 5.51E+05 NA 1.10E+03 na NA 5.53E+04 NA 1.83E+02 na NA 5.53E+04 NA 1.83E+02 na NA 5.90E+04 NA 1.83E+02 na NA 1.51E+04 NA 1.83E+02 na NA 1.51E+04 NA 1.83E+02 na NA 1.51E+04 NA 1.83E+	2-Butyne (crotonylene)	ΨN	N		na	NA	NA A		na
8.08E-02 2.10E+02 3.85E-04 no 1.97E+00 5.28E+05 NA 1.37E-04 na NA 2.50E+03 NA 5.82E-03 na NA 5.85E+04 NA 2.19E+03 na NA 5.85E+04 NA 1.83E+01 na NA 5.25E+03 NA 3.29E+00 na NA 5.25E+03 NA 3.29E+00 na NA 5.25E+03 NA 3.06E-01 na NA 5.25E+03 NA 3.06E-01 na NA 5.25E+03 NA 1.10E+03 na NA 5.53E+04 NA 1.25E-01 na NA 5.53E+04 NA 1.83E+02 na NA 5.53E+04 NA 1.83E+02 na NA 1.51E+04 NA 1.83E+02 na NA 1.51E+04 NA 1.83E+02 na NA 1.51E+04 NA	n-Pentane	AN	N		na	NA	1.80E+06		na
NA 1.37E-04 na NA NA 5.82E-03 na NA NA 2.19E+03 na NA NA 1.83E+01 na NA NA 3.29E+00 na NA NA 3.06E-01 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA	n-Hexane	8.08E-02	2.10E+02	3.85E-04	no	1.97E+00	5.28E+05	3.72E-06	9
NA 1.37E-04 na NA NA 5.82E-03 na NA NA 2.19E+03 na NA NA 1.83E+01 na NA NA 3.06E-01 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 1.83E+02 na NA NA 1.83E+02 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA NA NA NA NA	SVOCs								
NA 5.82E-03 na NA NA 2.19E+03 na NA NA 1.83E+01 na NA NA 3.29E+00 na NA NA 2.09E+02 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 4.80E-01 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA NA NA NA NA	n-nitrosodimethylamine	NA	1.37E-04		na	AN	2.50E+03		na
NA 2.19E+03 na NA NA 1.83E+01 na NA NA 3.29E+00 na NA NA 2.09E+02 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA	bis(2-chloroethyl)ether	AN	5.82E-03		па	AA	5.85E+04		na
NA 1.83E+01 na NA NA 3.29E+00 na NA NA 2.09E+02 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 9.61E-04 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA	phenol	NA	2.19E+03		na	NA	3.85E+04		па
NA 3.29E+00 na NA NA 3.06E-01 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NA NA NA NA NA NA NA NA NA	2-chlorophenol	ΝΑ	1.83E+01		na	NA	5.25E+03		na
NA 3.06E-01 na NA NA 2.09E+02 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA	1,3-Dichlorobenzene	NA	3.29E+00		na	AN	3.61E+04		na
NA 2.09E+02 na NA NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA 7.30E+01 na NA NA NA NA NA	1,4-dichlorobenzene	NA	3.06E-01		na	ΑΝ	6.61E+05		na
NA 1.10E+03 na NA NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 7.08E+00 na NA NA 7.08E+00 na NA NA NA NA NA NA NA NA NA NA NA NA NA	1,2-dichlorobenzene	NA	2.09E+02		пa	NA NA	3.01E+05		na
NA 1.92E-01 na NA NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NA NA NA NA 7.30E+01 na NA NA NA NA NA	benzyl alcohol	NA	1.10E+03		na	NA NA	5.53E+04		na
NA 1.83E+02 na NA NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 7.08E+00 na NA NA NA NA NA NA 7.30E+01 na NA NA NA na NA NA NA na NA NA NA NA NA	bis(2-chlorolsopropyl)ether	NA	1.92E-01		na	AA	6.99E+04		na
NA 4.80E-01 na NA NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NV na NA NA 7.30E+01 na NA NA NA na NA NA NA na NA	2-methylphenol	NA	1.83E+02		na	ΑA	NA		Б
NA 9.61E-04 na NA NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NV na NA NA 7.30E+01 na NA NA NA NA NA	hexachloroethane	NA	4.80E-01		na	NA	2.90E+04		na
NA 1.83E+02 na NA NA 2.09E+00 na NA NA 7.08E+00 na NA NA NV na NA NA 7.30E+01 na NA NA NA na NA	n-nitroso-di-n-propylamine	AN	9.61E-04		na	Y Y	2.00E+02		na
NA 2.09E+00 na NA NA 7.08E+00 na NA NA NV na NA NA 7.30E+01 na NA NA NV na NA	4-methylphenol	NA	1.83E+02		na	ZA	A V		na
NA 7.08E+00 na NA NA NV na NA NA 7.30E+01 na NA NA NV na NA	nitrobenzene	NA	2.09E+00		na	ΔA	1.51E+04		na
NA NV na	isophorone	NA	7.08E+00		na	AN	2.83E+04		na
NA 7.30E+01 na	2-nitrophenol	NA	>N		na	AN	AN		па
NA NA NA NA	2,4-dimethylphenol	NA	7.30E+01		па	AN	NA		na
The same of the sa	bis(2-chloroethoxy)methane	AN	N		g	AN	NA A		na

Table D-1: Comparison of Modeled Alr Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56- DO	mm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	С _{асиte} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
2,4-dichlorophenol	NA	1.10E+01		na	NA	3.00E+04		na
1,2,4-trichlorobenzene	NA	2.08E+02		na	NA	3.71E+04		na
naphthalene	8.85E-03	3.13E+00	2.83E-03	2	2.15E-01	7.86E+04	2.74E-06	2
4-chloroaniline	NA	1.46E+01		na	NA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	NA	3.21E+04		na
4-chloro-3-methylphenol	NA	N		na	NA	2.00E+04		na
2-methylnaphthalene	NA	7.30E+01		na	AN	2.00E+04		na
hexachlorocyclopentadiene	NA	7.30E-02		na	NA	2.23E+02		na
2,4,6-trichlorophenol	NA	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	NA	3.65E+02		na	NA	3.00E+04		na
2-chloronaphthalene	NA	2.92E+02		na	AN	6.00E+02		na
2-nitroaniline	NA	2.09E-01		na	NA	ΑN		na
Acenaphthylene	NA	N		na	AN	2.00E+02		na
dimethylphthalate	ΝΑ	3.65E+04		na	NA	1.50E+04		na
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	N N	2.19E+02		na	NA	1.25E+03		na
3-nitroaniline	NA NA	N<		na	NA	AN		na
2,4-dinitrophenol	NA	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	NA NA	1.46E+01		na	NA	AN		na
2,4-dinitrotoluene	N A	7.30E+00		na	NA	6.00E+02		na
4-nitrophenol	Ϋ́Α	2.92E+01		na	NA	3.00E+04		na
Fluorene	NA	1.46E+02		na	NA	7.50E+04		na
4-chlorophenyl-phenylether	NA	>N		na	NA	NA		na
diethylphthalate	NA	2.92E+03		па	NA	1.50E+04		na
4-nitroaniline	NA	N		na	NA	9.00E+03		na
4,6-dinitro-2-methylphenol	NA	3.65E-01		na	NA	5.00E+02		na
n-nitrosodiphenylamine(1)	NA	1.37E+00		na	NA	NA		na
4-bromophenyl-phenylether	NA	N		na	NA	AN		na
hexachlorobenzene	NA	4.18E-03		na	NA	7.50E+01		na
pentachlorophenol	NA	5.60E-02		na	NA	1.50E+03		na
phenanthrene	NA	N		na	NA	2.00E+03		na
anthracene	NA	1.10E+03		na	NA	6.00E+03		na
di-n-butylphthalate	8.19E-03	3.65E+02	2.24E-05	2	1.99E-01	1.50E+04	1.33E-05	ou
fluoranthene	NA	1.46E+02		na	NA A	3.00E+01		na

M855A1risk100m.xls

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56-ı DO	56-mm Ball, № DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
pyrene	NA	1.10E+02		na	NA	1.50E+04		na
butyibenzylphthalate	NA	7.30E+02		na	NA	5.00E+05		na
benzo(a)anthracene	NA	2.17E-02		na	NA	6.00E+02		na
chrysene	NA	2.17E+00		na	NA	2.00E+02		na
3,3-dichlorobenzidine	NA	1.50E-02		na	NA	6.21E+03		na
bis(2-ethylhexyl)phthalate	6.92E-02	4.80E-01	1.44E-01	no	3.93E+00	1.00E+04	3.93E-04	no
di-n-octylphthalate	NA	7.30E+01		na	NA	1.50E+05		na
benzo(b)fluoranthene	NA	2.17E-02		na	NA	AN		na
benzo(k)fluoranthene	NA	2.17E-01		na	NA	NA		na
benzo(a)pyrene	NA	2.17E-03		na	NA	7.50E+03		na
indeno(1,2,3-cd)pyrene	NA	2.17E-02		na	NA	NA		na
dibenz(a,h)anthracene	NA	2.17E-03		na	NA	3.00E+04		na
benzo(g,h,i)perylene	NA	ΛN		na	NA	3.00E+04		na
TO-13 (PAHs)								
naphthalene	3.36E-03	3.13E+00	1.07E-03	5	8.16E-02	7.86E+04	1.04E-06	OU.
acenaphthylene	1.35E-04	N		na	3.29E-03	2.00E+02	1.65E-05	92
Acenaphthene	2.77E-05	2.19E+02	1.27E-07	no	6.74E-04	1.25E+03	5.39E-07	92
fluorene	8.28E-05	1.46E+02	5.67E-07	no	2.01E-03	7.50E+04	2.68E-08	no
phenanthrene	1.23E-04	ΛN		na	2.98E-03	2.00E+03	1.49E-06	no
anthracene	1.80E-05	1.10E+03	1.64E-08	no	4.38E-04	6.00E+03	7.30E-08	no
fluoranthene	1.42E-04	1.46E+02	9.69E-07	ou	3.44E-03	3.00E+01	1.15E-04	no
pyrene	3.05E-04	1.10E+02	2.79E-06	ou	7.42E-03	1.50E+04	4.95E-07	9
benzo(a)anthracene	2.51E-05	2.17E-02	1.16E-03	on O	1.43E-03	6.00E+02	2.38E-06	2
chrysene	3.00E-05	2.17E+00	1.38E-05	on	1.70E-03	2.00E+02	8.51E-06	ou
benzo(b)fluoranthene	5.59E-05	2.17E-02	2.58E-03	20	7.93E-04	NA		na
benzo(k)fluoranthene	2.19E-05	2.17E-01	1.01E-04	no	3.11E-04	NA		na
Benzo(e)pyrene	2.06E-04	N		na	1.25E-03	NA		na
benzo(a)pyrene	3.00E-05	2.17E-03	1.38E-02	on O	1.70E-03	7.50E+03	2.27E-07	no
indeno(1,2,3-cd)pyrene	5.12E-05	2.17E-02	2.36E-03	9	7.27E-04	NA		na
dibenz(a,h)anthracene	8.81E-06	2.17E-03	4.06E-03	2	5.00E-04	3.00E+04	1.67E-08	ou
benzo(g,h,i)perylene	4.19E-04	N		na	1.02E-02	3.00E+04	3.40E-07	on O
Dioxins and Furans								
2378-Tetrachlorodibenzo-p-dioxin	AN	4.48E-08		ā	A A	3.50E+00		na

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

Cennole (ug/m³) Cennole (ug/m³) Centonle (ug/m³) HBSL (ug/			Cartri	dge, 5.56- DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	(16A1)		
NA NV NA NV NA NV NA 1.48E-06 2.93E-09 NV 1.05E-08 NV NA 3.65E+01 NA NA NV NA NA NV NA NA NV NA NA NV NA NA NA NV NA NA NA NV NA NA NA NV NA N	Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	С _{асиtе} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
NA NV NA 1.48E-06 2.93E-09 NV 1.05E-08 NV NA 3.65E+01 NA NA NV NA NA NV NA NA NV NA NA NV NA NA NA NV NA NA NA NV NA NA NA NV NA N	2378-Pentachlorodibenzo-p-dioxin	NA	N<		na	AN	2.50E+00		na
NA 1.48E-06 2.93E-09 NV 1.05E-08 NV NA NV	23478-Hexachlorodibenzo-p-dioxin	NA	NN		na	NA	NA		na
2.93E-09	23678-Hexachlorodibenzo-p-dioxin	NA	NN		na	NA	1.50E+01		na
2.93E-09 1.05E-08 NA NA NA NA NA NA NA NA NA N	23789-Hexachlorodibenzo-p-dioxin	NA	1.48E-06		na	NA	NA		na
1.05E-08	34678-Heptachlorodibenzo-p-dioxin	2.93E-09	NV		na	1.78E-08	NA		na
NA NV NA NV NA NV NA NV NA NV S.67E-10 NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+01 NA 1.10E+02 NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA	OCDD	1.05E-08	NV		na	2.54E-07	1.50E+02	1.70E-09	ou
NA NV NA NV NA NV NA NV NA NV NA S.65E+01 NA NA S.65E+01 NA N	2378-Tetrachlorodibenzo-p-furan	NA	NN		na	NA	2.00E+00		na
NA NV NA NV NA NV NA NV NA NV NA S.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+00 NA 3.65E+00 NA 3.65E+00 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA	2378-Pentachlorodibenzo-p-furan	NA	NN		na	NA	NA		na
NA NV NA NV NA NV NA NV NA NV NA 3.65E+01 NA NV NA NV NA NV NA NV NA NA NV NA NA NV NA NA NV NA NA NA NV NA NA NA NV NA N	:3478-Pentachlorodibenzo-o-furan	NA	NN		na	NA	7.50E-02		na
NA NV NA NV NA NV NA NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+00 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA NV NA NV NA NV NA NV NA NA NV NA NA NV NA NA NV NA NA NA NV NA N	23478-Hexachlorodibenzo-p-furan	NA A	N/		na	ΝΑ	7.50E+00		na
NA NV NA NV 5.67E-10 NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+00 NA 3.65E+00 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA NV NA NA NA NV NA NA NA NV NA N	23678-Hexachlorodibenzo-p-furan	NA A	N		Ba	NA	2.50E+00		na
NA NV NA NV NA NV NA 3.65E+01 NA NV NA NA NA NV NA NA NA NV NA N	23789-Hexachlorodibenzo-p-furan	NA	N		na	NA	NA		na
5.67E-10 NV NA NA NA 2.09E+00 NA 3.65E+01 NA NA 1.10E+02 NA NA NA NA NA NA NA NA NA N	34678-Hexachlorodibenzo-p-furan	NA	ΛN		na	NA	1.50E+00		па
NA NV NA 2.09E+00 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+00 NA 3.65E+00 NA 3.65E+00 NA 1.10E+02 NA NV NA NV	:34678-Heptachlorodibenzo-p-furan	5.67E-10	NN		na	3.45E-09	NA		na
NA 2.09E+00 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 4.80E-01 NA 3.65E+00 NA 7.30E+00 NA 7.30E+00 NA 2.24E-01 NA 6.11E-02 NA 6.11E-02 NA NA NA NA	34789-Heptachlorodibenzo-p-furan	NA	NN		na	NA	NA		na
NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 7.30E+00 NA 7.30E+00 NA 7.30E+00 NA 6.11E-02 NA NV NA NV NA NV NA NA NV NA NA NV NA NA NA NA NA NA NA	OCDF	NA	N<		na	NA	3.00E+02		na
NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E+00 NA 3.65E+00 NA 7.30E+00 NA 7.30E+00 NA 6.11E-02 NA 6.11E-02 NA NV NA NV NA NV NA NV NA NA NV NA NA NV NA NA NA NV NA N	Energetics								
NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 4.80E-01 NA 3.65E+00 NA 7.30E+00 NA 1.10E+02 NA 6.11E-02 NA 6.11E-02 NA NV NA NV NA NV NA NA NV NA NA NV NA NA NA	Nitrobenzene	NA	2.09E+00		na	NA	1.51E+04		na
NA 3.65E+01 NA 3.65E+01 NA 3.65E+01 NA 3.65E-01 NA 7.30E+00 NA 7.30E+00 NA 2.24E-01 NA 6.11E-02 NA NV NA NV NA NV NA NV NA NA NV NA NA NV NA NA NV NA NA NA NV NA N	2-Nitrotoluene	NA	3.65E+01		na	NA	NA		na
NA 3.65E+01 NA 4.80E-01 NA 3.65E+00 NA 3.65E+00 NA 7.30E+00 NA 2.24E-01 NA 6.11E-02 NA NV	3-Nitrotoluene	NA	3.65E+01		na	NA	NA		na
NA 4.80E-01 NA 3.65E-01 NA 3.65E+00 NA 7.30E+00 NA 1.10E+02 NA 6.11E-02 NA 6.11E-02 NA NV NA NV NA NV NA NV NA NV NA NV NA 3.65E+01 NA NA NV NA NA NA NV NA N	4-Nitrotoluene	NA	3.65E+01		na	NA	3.37E+04		na
NA 3.65E-01 NA 3.65E-00 NA 7.30E+00 NA 1.10E+02 NA 6.11E-02 NA NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+02 NA NA NV	Nitroglycerine	NA	4.80E-01		na	NA	NA		na
NA 3.65E+00 NA 7.30E+00 NA 1.10E+02 NA 2.24E-01 NA 6.11E-02 NA NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+02 NA NA 3.65E+02	1,3-Dinitrobenzene	NA	3.65E-01		na	NA	3.00E+03		na
NA 7.30E+00 NA 1.10E+02 NA 2.24E-01 NA 6.11E-02 NA NV NA 3.65E+01 NA 3.65E+01 NA 3.65E+02 NA 3.65E+02	2,6-Dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
NA 1.10E+02 NA 2.24E-01 NA 6.11E-02 NA NV NA NV NA 3.65E+01 NA 3.65E+02 NA 3.65E+02 NA 3.65E+02	2,4-Dinitrotoluene	NA	7.30E+00		na	NA	6.00E+02		na
NA 2.24E-01 NA 6.11E-02 NA NV NA NV NA 3.65E+01 NA 1.83E+02 NA 3.65E+02	1,3,5-Trinitrobenzene	NA	1.10E+02		na	NA	3.00E+04		na
NA 6.11E-02 NA NV NA NV NA 3.65E+01 NA 1.83E+02 NA 3.65E+02	2,4,6-Trinitrotoluene	NA	2.24E-01		na	NA	2.50E+04		na
NA NV NA 3.65E+01 NA 1.83E+02 NA NV NA 3.65E+02	RDX	NA	6.11E-02		na	NA	NA		na
NA 3.65E+01 NA 1.83E+02 NA NV	4-Amino-2,6-Dinitrotoluene	NA	NV		na	NA	NA		na
NA 3.65E+01 NA 1.83E+02 NA NV NA 3.65E+02	2-Amino-2,6-Dinitrotoluene	NA	N		na	NA	1.50E+04		na
NA 1.83E+02 NA NV NA 3.65E+02	Tetryl	NA	3.65E+01		na	NA	NA		na
NA NV NA 3.65E+02	HMX	NA	1.83E+02		na	NA	NA		na
NA 3.65E+02	Pentaerythritoltetranitrate	NA	N		na	NA	5.00E+01		na
	Dibutyl Phthalate	NA	3.65E+02		na	NA	1.50E+04		na

M855A1risk100m.xls

3/25/01

Table D-1: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 100 meter location

		Cartri	dge, 5.56-l DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)	. 4	
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	Cacute (µg/m³)	Acute Toxicity Value (μg/m³)	G _{acute} / ATV > 1?	> 1?
Dioctyl Phthalate	NA	4.80E-01		na	NA	1.00E+04		na
Diphenylamine	NA	9.13E+01		na	NA	3.00E+04		na

Footnotes:

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Cehronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Cacule: acute concentration

ATV: Acute toxicity value

M855A1risk100m.xls

Compound Permanent Gases Hexane Benzene Heptane Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	C _{chronic} (µg/m³)			
Permanent Gases Hexane Benzene Heptane Toluene Octane Ethylbenzene m&p-Xylene O-Xylene Styrene 4-Ethyltoluene		C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
Permanent Gases Hexane Benzene Heptane Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
Hexane Benzene Heptane Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene				
Benzene Heptane Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	1.91E-01	NA	NA	NA
Heptane Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	NA	NA	2.07E-01	NA
Toluene Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	6.44E-05	NA	NA	NA
Octane Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene	NA	NA	9.70E-03	ΑN
Ethylbenzene m&p-Xylene o-Xylene Styrene 4-Ethyltoluene 1,2,4-Trimethylbenzene	8.15E-04	NA	NA	NA
m&p-Xylene o-Xylene Styrene 4-Ethyltoluene 1,2,4-Trimethylbenzene	NA	NA	8.97E-04	AN
o-Xylene Styrene 4-Ethyltoluene 1,2,4-Trimethylbenzene	NA	AN	1.22E-03	AN
Styrene 4-Ethyltoluene 1,2,4-Trimethylbenzene	NA	NA	1.53E-03	AN
4-Ethyltoluene 1,2,4-Trimethylbenzene	NA	NA	ΑN	2.01E-03
1,2,4-Trimethylbenzene	NA	NA	AN	1.14E-03
	ΑN	AN	NA	1.43E-03
Propylene	3.31E-02	NA	NA	NA
n-Hexane	8.08E-02	AN	NA	NA
naphthalene	NA	NA	NA	8.85E-03
naphthalene	NA	NA	NA	3.36E-03
acenaphthylene	NA	AN	NA	1.35E-04
Acenaphthene	NA	AN	NA	2.77E-05
fluorene	NA	AN	NA	8.28E-05
phenanthrene	NA	AN	NA	1.23E-04
anthracene	NA	AN	NA	1.80E-05
fluoranthene	NA	NA	NA	1.42E-04
Total (µg/m³)	3.06E-01	0.00E+00	2.20E-01	1.73E-02
Derived Health-Based Screening Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
C _{chronic} /HBSL	1.60E-05	0.00E+00	5.28E-04	8.30E-05
>1?		on O	2	OL

Footnotes: >1? = Is the ratio greater than one? D-11

	Ö	artridge, 5.56-mn DODI	Cartridge, 5:56-mm Ball, M855 (M16A1 DODIC: A059	(1)
Compound	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
NA = Not Applicable because compound was not detected				
C _{chronic} = chronic averaged air Concentration				
HBSL = Health-Based Screening Level				

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56- DC	mm B	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (μg/m³)	C _{acute} / ATV	× 1?
Permanent Gases								
Ammonia (NH3)	1.14E+01	1.04E+02	1.09E-01	2	6.91E+01	1.75E+04	3.95E-03	0
Carbon Dioxide (CO2)	2.78E+02	AN.		па	6.77E+03	5.40E+07	1.25E-04	on
Carbon Monoxide (CO)	5.44E+02	1.00E+04	5.44E-02	OU	3.31E+03	2.30E+05	1.44E-02	on O
Oxides of Nitrogen (as NO)	2.81E+01	1.00E+02	2.81E-01	ou	6.83E+02	3.08E+04	2.22E-02	ou
Sulfur Dioxide (SO2)	NA	8.00E+01		na	AN	7.89E+02		na
Acid Gases								
Hydrogen fluoride	NA	N/		na	NA	1.60E+03		na
Hydrogen chloride	NA	2.08E+01		na	ΑN	4.50E+03		na
Hydrogen bromide	NA	ΛN		na	ΑN	9.93E+03		na
Nitric Acid	1.98E-01	N.		na	1.21E+00	1.30E+03	9.28E-04	2
Phosphoric acid	NA	1.04E+01		na	ΑN	3.00E+03		na
Sulfuric Acid	NA	ΛN		na	AN	2.00E+03		na
Cyanide								
Particulate Cyanide	AN	7.30E+01		na	ΑN	5.00E+03		na
Hydrogen Cyanide	9.01E+00	3.13E+00	2.88E+00	yes	2.19E+02	5.17E+03	4.24E-02	0
Particulates								
Total Suspended Particulate	1.32E+01	5.00E+01	2.64E-01	DO.	8.04E+01	NA		na
PM10	1.35E+01	5.00E+01	2.71E-01	no	8.24E+01	NA		na
PM2.5	9.34E+00	1.50E+01	6.23E-01	ou	5.68E+01	AN		na
Metals								
Aluminum	5.01E-02	5.11E+00	9.80E-03	no	1.22E+00	3.00E+04	4.06E-05	no
Antimony	5.90E-01	1.46E+00	4.04E-01	no	1.43E+01	1.50E+03	9.56E-03	no
Arsenic	NA	4.47E-04		na	NA	3.00E+01		na
Barium	3.97E-01	5.21E-01	7.60E-01	00	9.64E+00	1.50E+03	6.43E-03	no
Beryllium	NA	8.00E-04		na	NA	5.00E+00		na
Cadmium	NA	1.07E-03		na	NA	3.00E+01		na
Calcium	1.47E-01	N		na	3.57E+00	3.00E+04	1.19E-04	OU
Chromium	NA	1.53E-04		na	NA	1.50E+03		na
Cobalt	NA	2.20E+02		na	NA	6.00E+01		na
Copper	5.36E+00	1.46E+02	3.67E-02	no	1.30E+02	3.00E+03	4.35E-02	no
Lead	1.71E+00	1.50E+00	1.14E+00	yes	4.15E+01	1.50E+02	2.77E-01	no
Magnesium	NA	N		na	NA	3.00E+04		na
Manganese	NA	5.11E-02		na	NA	3.00E+03		na

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartr	idge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	(16A2)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 1?
Nickel	NA	7.30E+01		na	AN	3.00E+03		na
Selenium	NA	1.83E+01		na	NA	6.00E+02		na
Silver	NA	1.83E+01		na	AN	3.00E+02		na
Thallium	NA	2.56E-01		na	NA	3.00E+02		na
Vanadium	NA	2.56E+01		eu	NA	1.50E+02		na
Zinc	7.03E-01	1.10E+03	6.42E-04	on	1.71E+01	3.00E+04	5.70E-04	2
TO-11 Carbonyls								
Formaldehyde	1.09E-02	1.48E-01	7.41E-02	2	1.55E-01	1.23E+03	1.26E-04	2
Acetaldehyde	NA	8.73E-01		na	AN	1.80E+04		па
Acetone	NA	3.65E+02		na	ΑN	2.37E+06		na
Acrolein	8.66E-03	2.09E-02	4.15E-01	2	5.27E-02	2.30E+02	2.29E-04	2
Proprionaldehyde	NA	۸N		na	AN	7.50E+04		na
Crotonaldehyde	NA	3.54E-03		na	ΝΑ	5.72E+03		na
Butyraldehyde	NA	NV		na	ΑN	7.38E+04		na
Benzaldehyde	NA	3.65E+02		na	ΑN	1.50E+04		na
Isovaleraldehyde	NA	N		na	NA	NA		na
Valeraldehyde	NA	N		na	NA	NA		na
o,m,p-Tolualdehyde	NA	NV		na	A'A	ΝΑ		na
Hexaldehyde	NA	NV		na	NA	NA		na
2,5-Dimethylbenzaldehyde	NA	N		na	ΝΑ	AN		na
VOCs								
Propene	2.77E-02	NV		na	1.68E-01	NA		na
Dichlorodifluoromethane	NA	2.09E+02		na	NA	1.48E+07		na
Chlorodifluoromethane	NA	5.11E+04		na	NA	4.41E+06		na
Freon 114	NA	N N		na	NA	2.10E+07		na
Chloromethane	2.06E-04	1.07E+00	1.93E-04	no	1.17E-02	2.06E+05	5.67E-08	ou
Vinyl Chloride	NA	2.20E-02		na	NA	1.28E+04		na
1,3-Butadiene	2.34E-03	3.74E-03	6.26E-01	no	3.32E-02	2.20E+04	1.51E-06	2
Bromomethane	NA	5.21E+00		na	NA	5.82E+04		na
Chloroethane	NA	2.32E+00		na	ΑN	2.64E+06		na
Dichlorofluoromethane	AN A	2.09E+02		na	NA	1.48E+07		na
Trichlorofluoromethane	NA NA	7.30E+02		na	NA	2.81E+06		na
Pentane	AN:	≥N		na	NA	1.80E+06		na
Acrolein	NA NA	2.09E-02		na	ΝΑ	2.30E+02		na

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56-ı DO	nm B	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 12
1,1-Dichloroethene	NA	5.21E+02		na	NA	7.92E+04		na
Freon 113	NA	3.13E+04		na	NA	9.58E+06		na
Acetone	8.43E-03	3.65E+02	2.31E-05	no OL	2.05E-01	2.37E+06	8.65E-08	no
Methyl lodide	NA	NN		na	NA	1.45E+05		na
Carbon Disulfide	NA	7.30E+02		na	NA	3.11E+04		na
Acetonitrile	2.12E-01	6.20E+01	3.42E-03	OL	5.15E+00	1.01E+05	5.11E-05	2
3-Chloropropene	NA	1.04E+00		na	NA	9.39E+03		na
Methylene Chloride	2.88E-02	4.09E+00	7.04E-03	OU	4.08E-01	6.96E+05	5.87E-07	no
tert-Butyl Alcohol	AN	NN		na	NA	4.55E+05		na
Acrylonitrile	7.22E-03	2.83E-02	2.56E-01	no	1.02E-01	2.17E+04	4.72E-06	91
trans-1,2-Dichloroethene	AN	7.30E+01		na	NA	4.95E+04		na
Methyl t-Butyl Ether	AN	3.13E+03		na	NA	4.32E+05		na
Hexane	4.74E-02	2.09E+02	2.27E-04	no	1.15E+00	5.28E+05	2.18E-06	ou
1,1-Dichloroethane	AN	5.21E+02		na	NA	1.21E+06		na
Vinyl Acetate	AN	2.09E+02		na	NA	1.92E+04		na
cis-1,2-Dichloroethene	NA	3.65E+01		na	NA	7.92E+05		na
2-Butanone	AN	1.04E+03		na	NA	8.85E+05		na
Ethyl Acetate	6.12E-03	3.29E+03	1.86E-06	2	1.49E-01	1.44E+06	1.03 E -07	OU
Methyl Acrylate	NA	1.10E+02		na	NA	NA		na
Chloroform	NA	8.35E-02		na	NA A	9.76E+03		па
1,1,1-Trichloroethane	5.73E-04	1.04E+03	5.50E-07	no	3.49E-03	1.94E+06	1.79E-09	no
Carbon Tetrachloride	AN	1.28E-01		na	NA	1.28E+05		na
1,2-Dichloroethane	1.97E-03	7.39E-02	2.67E-02	no	1.12E-01	8.08E+03	1.38E-05	00
Benzene	1.01E-01	2.49E-01	4.05E-01	2	1.43E+00	1.56E+05	9.17E-06	ou
Isooctane (2,2,4-trimethylpentane)	NA	2		na	NA	3.50E+05		na
Heptane	NA	>N		na	Y V	1.80E+06		na
Trichloroethane	NA	1.04E+03		na	Y Y	1.94E+06		na
Ethyl Acrylate	AN	1.40E-01		na	NA	6.14E+04	,	na
1,2-Dichloropropane	NA	9.89E-02		na	NA	5.08E+05		na
Methyl Methacrylate	NA	7.30E+02		na	ΥZ	4.09E+05		na
Dibromomethane	NA	3.65E+01		na	ΥN	2.50E+05		na
1,4-Dioxane	NA	6.11E-01		na	NA	9.00E+04		na
Bromodichloromethane	ΑN	1.08E-01		na	AN	4.00E+03		na
4-Methyl-2-Pentanone	NA	8.34E+01		na	ΨN	3.07E+05		na

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 1?
Toluene	1.14E-02	4.02E+02	2.84E-05	no	6.94E-02	1.88E+05	3.70E-07	2
Octane	NA	N		na	NA	NA		na
trans-1,3-Dichloropropene	NA	5.17E-02		na	NA	NA		na
Ethyl Methacrylate	NA	3.29E+02		na	NA	NA		na
1,1,2-Trichloroethane	NA	1.20E-01		na	NA	1.64E+05		na
Tetrachloroethene	AN	3.31E+00		na	NA	6.78E+05		na
2-Hexanone	NA	5.11E+00		na	NA	4.09E+04		na
Dibromochloromethane	NA	8.00E-02		na	NA	6.00E+03		na
1,2-Dibromoethane	NA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA	6.21E+01		na	NA	1.38E+05		na
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		na
Ethylbenzene	1.07E-03	1.06E+03	1.01E-06	no	2.61E-02	5.43E+05	4.82E-08	ou
m&p-Xylene	2.41E-03	7.30E+02	3.29E-06	no	5.85E-02	6.51E+05	8.99E-08	9
o-Xylene	1.32E-03	7.30E+02	1.81E-06	no	3.22E-02	6.51E+05	4.94E-08	no
Styrene	3.22E-03	1.06E+03	3.05E-06	no	1.96E-02	2.13E+05	9.21E-08	no
. Bromoform	NA	1.75E+00		na	NA	6.20E+03		na
Cumene	NA	4.02E+02		na	NA	2.46E+05		na
1,1,2,2-Tetrachloroethane	NA	3.31E-02		na	NA	2.06E+04		na
1,2,3-Trichloropropane	NA	9.61E-04		Па	NA	6.03E+04		na
Bromobenzene	NA	1.04E+01		na	Ϋ́	4.82E+04		na
4-Ethyltoluene	5.58E-04	N		na	1.36E-02	1.25E+05	1.09E-07	2
1,3,5-Trimethylbenzene	3.81E-04	6.21E+00	6.14E-05	no	9.27E-03	3.68E+05	2.52E-08	00
Alpha Methyl Styrene	AA	2.56E+02		na	AA	NA		na
1,2,4-Trimethy!benzene	1.12E-03	6.21E+00	1.81E-04	00	2.73E-02	1.80E+05	1.51E-07	9
1,3-Dichlorobenzene	NA	3.29E+00		na	NA	3.61E+04		na
1,4-Dichlorobenzene	NA	3.06E-01		na	NA	6.61E+05		na
Benzyl Chloride	ΝΑ	3.96E-02		na	NA	5.20E+03		na
1,2-Dichlorobenzene	NA	2.09E+02		na	NA	3.01E+05		na
Hexachlorethane	NA	4.80E-01		na	AN	2.90E+04		na
1,2,4-Trichlorobenzene	NA	2.08E+02		na	ΑΝ	3.71E+04		na
Hexachlorobutadiene	NA	8.73E-02		Ba	NA NA	3.21E+04		na
Livershone								
Hydrocal Dolls	0 547.00	/ 11 4		Ī	77.1	00 · L00 0	1010	
Methane	3.31E+00	۸۸۱		na	8.54E+U1	3.30E+06	Z.59E-U5	2

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56- DC	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronlc} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (μg/m³)	Cacute/ ATV	> 1?
Ethylene	2.61E-01	N/		na	6.36E+00	4.60E+05	1.38E-05	<u>و</u>
Acetylene	3.55E-02	N		na	2.16E-01	NA		na
Ethane	1.43E-01	N		na	8.72E-01	NA NA		na
Propylene	5.20E-02	ΛN		na	3.16E-01	NA		na
Propane	ΝΑ	ΛN		na	A V	3.78E+06		na
Propyne (methyl acetylene)	ΑN	NΛ		na	NA NA	2.79E+06		na
Isobutane	ΑN	۸N		na	ΑΝ	9.52E+05		na
1-Butene/Isobutylene (115-11-7)	3.06E-02	Ν		na	7.45E-01	6.87E+06	1.08E-07	2
1.3-Butadiene/butane	NA	3.74E-03		na	NA	2.20E+04		na
cis-butene	ΑN	N/		na	NA	1.72E+04		na
1-Butyne	Ν	NN	·	na	Y Y	NA		na
trans-Butene	AN	N/		na	AA	1.72E+04		па
2-Butyne (crotonylene)	AN	N N		na	NA	NA		na
n-Pentane	NA	N<		na	NA	1.80E+06		па
n-Hexane	4.60E-02	2.10E+02	2.19E-04	on O	1.12E+00	5.28E+05	2.12E-06	2
SVOCs								
n-nitrosodimethylamine	AN	1.37E-04		na	NA	2.50E+03		па
bis(2-chloroethyl)ether	NA	5.82E-03		na	Y Y	5.85E+04		па
phenol	NA	2.19E+03		na	N A	3.85E+04		na
2-chlorophenol	ΝΑ	1.83E+01		na	NA	5.25E+03		na
1,3-Dichlorobenzene	NA	3.29E+00		na	NA	3.61E+04		na
1,4-dichlorobenzene	NA	3.06E-01		na	NA	6.61E+05		na
1,2-dichlorobenzene	NA	2.09E+02		na	ΑN	3.01E+05		na
benzyl alcohol	NA	1.10E+03		na	AA	5.53E+04		na
bis(2-chloroisopropyl)ether	NA	1.92E-01		na	AN	6.99E+04		па
2-methylphenol	NA	1.83E+02		na	ΑA	NA		na
hexachloroethane	Ϋ́	4.80E-01		na	X V	2.90E+04		na
n-nitroso-di-n-propylamine	AN	9.61E-04		na	NA	2.00E+02		na
4-methylphenol	AN	1.83E+02		na	AA	NA		na
nitrobenzene	AN	2.09E+00		na	NA	1.51E+04		na
isophorone	NA	7.08E+00		na	ΝΑ	2.83E+04		na
2-nitrophenol	NA	NV		na	NA	NA		na
2,4-dimethylphenol	NA	7.30E+01		па	ΔN	ΝΑ		na
bis(2-chloroethoxy)methane	NA AN	N		g	AN	AN N		na

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	(16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chrontc} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
2,4-dichlorophenol	NA	1.10E+01		na	AN	3.00E+04		na
1,2,4-trichlorobenzene	NA	2.08E+02		a	NA	3.71E+04		ВП
naphthalene	3.48E-03	3.13E+00	1.11E-03	ou	8.46E-02	7.86E+04	1.08E-06	2
4-chloroaniline	NA	1.46E+01		na	NA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	NA	3.21E+04		na
4-chloro-3-methylphenol	NA	NV		na	NA	2.00E+04		na
2-methylnaphthalene	NA	7.30E+01		na	ΝΑ	2.00E+04		na
hexachlorocyclopentadiene	NA	7.30E-02		na	NA	2.23E+02		na
2,4,6-trichlorophenol	A'N	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	NA	3.65E+02		na	NA	3.00E+04		na
2-chloronaphthalene	AA	2.92E+02		na	NA	6.00E+02		na
2-nitroaniline	NA	2.09E-01		na	NA	NA		ВС
Acenaphthylene	NA	NV		na	NA	2.00E+02		na
dimethylphthalate	NA	3.65E+04		na	NA	1.50E+04		na
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	NA	2.19E+02		na	NA	1.25E+03		na
3-nitroaniline	V	N		na	NA	NA		na
2,4-dinitrophenol	ΑΝ	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	NA A	1.46E+01		na	NA	AN		na
2,4-dinitrotoluene	NA	7.30E+00		na	NA	6.00E+02		na
4-nitrophenol	NA	2.92E+01		na	NA	3.00E+04		па
Fluorene	NA	1.46E+02		na	NA	7.50E+04		na
4-chlorophenyl-phenylether	AN	N		Вa	NA	NA		na
diethylphthalate	NA.	2.92E+03		Б	NA A	1.50E+04		na
4-nitroaniline	NA	N/		na	NA NA	9.00E+03		na
4,6-dinitro-2-methylphenol	NA	3.65E-01		na	NA	5.00E+02		na
n-nitrosodiphenylamine(1)	NA	1.37E+00		na	NA	NA		па
4-bromophenyl-phenylether	NA	N		na	NA	AN		na
hexachlorobenzene	NA	4.18E-03		na	NA	7.50E+01		na
pentachlorophenol	NA	5.60E-02		na	NA	1.50E+03		na
phenanthrene	NA	N		na	NA	2.00E+03		na
anthracene	NA	1.10E+03		па	NA	6.00E+03		na
di-n-butylphthalate	3.89E-03	3.65E+02	1.07E-05	2	9.46E-02	1.50E+04	6.31E-06	00
fluoranthene	NA	1.46E+02		na	AA	3.00E+01		na

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Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartric	dge, 5.56-ı DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 12
Dyrene	ΑN	1.10E+02		na	NA	1.50E+04		na
butvlbenzvlphthalate	AN	7.30E+02		na	NA	5.00E+05		na
benzo(a)anthracene	ΑN	2.17E-02		na	NA	6.00E+02		na
chrysene	ΑN	2.17E+00		na	NA	2.00E+02		na
3.3-dichlorobenzidine	ΑN	1.50E-02		na	NA	6.21E+03		na
bis(2-ethylhexyl)phthalate	AN	4.80E-01		na	NA	1.00E+04		па
di-n-octvlphthalate	NA	7.30E+01		na	NA	1.50E+05		na
penzo(b)fluoranthene	AN	2.17E-02		na	NA	NA		na
benzo(k)fluoranthene	AN	2.17E-01		na	NA	NA		na
benzo(a)pyrene	AN	2.17E-03		na	NA	7.50E+03		na
indeno(1.2.3-cd)pyrene	AN	2.17E-02		na	NA	NA		na
dibenz(a,h)anthracene	AA	2.17E-03		na	NA	3.00E+04		na
benzo(g,h,i)perylene	NA	N		ua	NA	3.00E+04		na
TO-13 (PAHs)								
naphthalene	2.96E-03	3.13E+00	9.46E-04	2	7.20E-02	7.86E+04	9.16E-07	2
acenaphthylene	1.28E-04	NV		na	3.12E-03	2.00E+02	1.56E-05	2
Acenaphthene	2.50E-05	2.19E+02	1.14E-07	9	6.08E-04	1.25E+03	4.86E-07	2
fluorene	7.11E-05	1.46E+02	4.87E-07	no	1.73E-03	7.50E+04	2.31E-08	ဥ
phenanthrene	9.76E-05	NV		na	2.37E-03	2.00E+03	1.19E-06	on O
anthracene	1.78E-05	1.10E+03	1.63E-08	no	4.33E-04	6.00E+03	7.22E-08	2
fluoranthene	1.52E-04	1.46E+02	1.04E-06	2	3.69E-03	3.00E+01	1.23E-04	2
pyrene	3.84E-04	1.10E+02	3.50E-06	00	9.33E-03	1.50E+04	6.22E-07	2
benzo(a)anthracene	3.62E-05	2.17E-02	1.67E-03	2	2.05E-03	6.00E+02	3.42E-06	2
chrysene	3.62E-05	2.17E+00	1.67E-05	2	2.05E-03	2.00E+02	1.03E-05	2
benzo(b)fluoranthene	5.07E-05	2.17E-02	2.34E-03	2	7.20E-04	NA		na
benzo(k)fluoranthene	2.51E-05	2.17E-01	1.16E-04	no	3.56E-04	NA		па
Benzo(e)pyrene	1.65E-04	NV		na	1.00E-03	NA		na
benzo(a)pyrene	6.38E-05	2.17E-03	2.94E-02	no	3.62E-03	7.50E+03	4.83E-07	2
indeno(1,2,3-cd)pyrene	7.53E-05	2.17E-02	3.47E-03	2	1.07E-03	NA		na
dibenz(a,h)anthracene	6.52E-06	2.17E-03	3.01E-03	2	3.70E-04	3.00E+04	1.23E-08	2
benzo(g,h,i)perylene	4.11E-04	N		па	1.00E-02	3.00E+04	3.33E-07	2
Dioxins and Furans		1			414	00.00		3
2378-Tetrachlorodibenzo-p-dioxin	NA	4.48E-08		na	¥2	3.505+00		<u>a</u>

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56- DO	56-mm Ball, N DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	//16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	× 1×	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	× 12
12378-Pentachlorodibenzo-p-dioxin	NA	N/		na	Ϋ́	2.50E+00		na
123478-Hexachlorodibenzo-p-dioxin	NA	NV		na	NA	AN		na
123678-Hexachlorodibenzo-p-dioxin	NA	N		na	NA	1.50E+01		na
123789-Hexachlorodibenzo-p-dioxin	NA	1.48E-06		na	NA	NA		na
1234678-Heptachlorodibenzo-p-dioxin	NA	N		na	AN	NA		na
OCDD	NA	NV		na	AN	1.50E+02		na
2378-Tetrachlorodibenzo-p-furan	NA	N/		na	AN	2.00E+00		na
12378-Pentachlorodibenzo-p-furan	NA	NN		na	NA	NA		na
23478-Pentachlorodibenzo-o-furan	NA	NN		na	NA	7.50E-02		na
123478-Hexachlorodibenzo-p-furan	NA	NV		na	NA	7.50E+00		Па
123678-Hexachlorodibenzo-p-furan	NA	NN		na	NA	2.50E+00		na
123789-Hexachlorodibenzo-p-furan	NA	NN		na	NA	NA		па
234678-Hexachlorodibenzo-p-furan	NA	۸N		na	NA	1.50E+00		na
1234678-Heptachlorodibenzo-p-furan	NA	۸N		na	AN	NA		na
1234789-Heptachlorodibenzo-p-furan	NA	NN		na	NA	NA		na
OCDF	2.88E-10	ΛN		na	7.01E-09	3.00E+02	2.34E-11	2
Energetics								
Nitrobenzene	NA	2.09E+00		na	NA	1.51E+04		na
2-Nitrotoluene	NA	3.65E+01		na	NA	NA		na
3-Nitrotoluene	Ϋ́	3.65E+01		na	NA	NA		na
4-Nitrotoluene	ΝΑ	3.65E+01		na	NA	3.37E+04		na
Nitroglycerine	AA	4.80E-01		Бa	ΑΝ	NA		na
1,3-Dinitrobenzene	AA	3.65E-01		na	NA	3.00E+03		na
2,6-Dinitrotoluene	AN	3.65E+00		na	Ϋ́	6.00E+02		na
2,4-Dinitrotoluene	NA	7.30E+00		na	NA	6.00E+02		na
1,3,5-Trinitrobenzene	N A	1.10E+02		na	NA	3.00E+04		na
2,4,6-Trinitrotoluene	NA	2.24E-01		na	NA	2.50E+04		na
RDX	AA	6.11E-02		na	NA	NA		na
4-Amino-2,6-Dinitrotoluene	NA	NV		na	NA	NA		na
2-Amino-2,6-Dinitrotoluene	NA	N.		na	NA	1.50E+04		na
Tetryl	NA	3.65E+01		na	NA	NA		na
HMX	NA	1.83E+02		na	AN	NA		na
Pentaerythritoltetranitrate	NA	N		na	NA	5.00E+01		na
Dibutyl Phthalate	NA	3.65E+02		na	AN	1.50E+04		na

Table D-3: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 100 meter location

		Cartri	dge, 5.56-ı DO	mm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		·
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	С _{асиte} (µg/m³)	Acute Toxicity Value (µg/m³)	G _{acute} / ATV > 1?	> 1?
Dioctyl Phthalate	NA	4.80E-01		na	NA	1.00E+04		na
Diphenylamine	NA	9.13E+01		na	NA	3.00E+04		na
-cotnotes:								

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Cohronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Cacute: acute concentration

ATV: Acute toxicity value

Table D-4: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2): Total Petroleum Hydrocarbons - 100 meter location

Compound		Ö	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	2)
Aliphatic:C<=8	Compound	C _{chrontc} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
A.74E-02 NA NA NA NA 1.07E-03 NA NA 1.32E-01 NA NA 1.32E-03 NA NA NA NA NA NA NA NA		Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
4.74E-02 NA NA NA NA 2.35E-01 NA NA 1.14E-02 NA NA 1.07E-03 NA NA 1.32E-03 NA NA NA NA NA NA NA NA	Permanent Gases				
NA NA 2.35E-01	Hexane	4.74E-02	NA	NA	NA
NA NA	Benzene	NA	AN	2.35E-01	NA
NA NA 1.07E-03	Toluene	NA	NA	1.14E-02	NA
NA NA 1.32E-03 NA NA 1.32E-03 NA	Ethylbenzene	NA	NA	1.07E-03	NA
NA	m&p-Xylene	NA	NA	2.41E-03	NA
NA	o-Xylene	NA	NA	1.32E-03	NA
NA	Styrene	NA	NA	AN	3.22E-03
NA	4-Ethyltoluene	AN	NA	NA	5.58E-04
NA	1,3,5-Trimethylbenzene	NA	NA	NA	3.81E-04
5.20E-02 NA NA 3.06E-02 NA NA 4.60E-02 NA NA NA NA NA QLevel 1.92E+04 1.04E+03 4.17E+02 c/HBSL 9.17E-06 0.00E+00 6.03E-04 no no no no	1,2,4-Trimethylbenzene	AN	NA	NA	1.12E-03
3.06E-02 NA NA 4.60E-02 NA NA NA NA NA Lug/m³ 1.76E-01 0.00E+00 2.51E-01 g_Level 1.92E+04 1.04E+03 4.17E+02 ro no no no	Propylene	5.20E-02	NA	NA	NA
4.60E-02 NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA Lug/m³ 1.76E-01 0.00E+00 2.51E-01 gLevel 1.92E+04 1.04E+03 4.17E+02 P17 no no no	1-Butene/Isobutylene (115-11-7)	3.06E-02	AN	NA	NA
NA	n-Hexane	4.60E-02	NA	NA	NA
NA	naphthalene	NA	NA	NA	3.48E-03
NA	naphthalene	NA	NA	NA	2.96E-03
NA	acenaphthylene	NA	AN	NA	1.28E-04
NA	Acenaphthene	NA	NA	NA	2.50E-05
NA	fluorene	NA	NA	NA	7.11E-05
had by the language name of th	phenanthrene	NA	NA	NA	9.76E-05
(µg/m³) 1.76E-01 0.00E+00 2.51E-01 g Level 1.92E+04 1.04E+03 4.17E+02 Ic/HBSL 9.17E-06 0.00E+00 6.03E-04 no no no	anthracene	NA	NA	NA	1.78E-05
(μg/m³) 1.76E-01 0.00E+00 2.51E-01 g Level 1.92E+04 1.04E+03 4.17E+02 c/HBSL 9.17E-06 0.00E+00 6.03E-04 no no no	fluoranthene	NA	NA	NA	1.52E-04
g Level 1.92E+04 1.04E+03 4.17E+02 Ic/HBSL 9.17E-06 0.00E+00 6.03E-04 no no no	Total (μg/m³)	1.76E-01	0.00E+00	2.51E-01	1.22E-02
/HBSL 9.17E-06 0.00E+00 6.03E-04 no no	Derived Health-Based Screening Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
>1? no no no	C _{chronic} /HBSL	9.17E-06	0.00E+00	6.03E-04	5.86E-05
		2	on O	no	no

Footnotes: >1? = Is the ratio greater than one?

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	Ö	artridge, 5.56-mm DODI0	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	(2)
Compound	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
NA = Not Applicable because compound was not detected C _{chronic} = chronic averaged air Concentration				
Logical Passed Scientify Level				

Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartri	dge, 5.56⊌ DC	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	(16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Permanent Gases								
Ammonia (NH3)	4.04E+00	1.04E+02	3.88E-02	2	2.46E+01	1.75E+04	1.40E-03	2
Carbon Dioxide (CO2)	1.12E+02	N		na	2.73E+03	5.40E+07	5.05E-05	2
Carbon Monoxide (CO)	2.06E+02	1.00E+04	2.06E-02	ou	1.25E+03	2.30E+05	5.43E-03	2
Oxides of Nitrogen (as NO)	1.00E+01	1.00E+02	1.00E-01	on On	2.44E+02	3.08E+04	7.94E-03	2
Sulfur Dioxide (SO2)	NA	8.00E+01		na	N A	7.89E+02		па
Acid Gases								
Hydrogen fluoride	NA	N/		na	Y.	1.60E+03		na
Hydrogen chloride	NA	2.08E+01		na	ΑĀ	4.50E+03		a a
Hydrogen bromide	AN	N .		na	Y.	9.93E+03		na B
Nitric Acid	NA	N		na	Y.	1.30E+03		БП
Phosphoric acid	AN	1.04E+01		na	Ϋ́	3.00E+03		па
Sulfuric Acid	6.07E-02	NV		na	3.69E-01	2.00E+03	1.85E-04	2
Cyanide								
Particulate Cyanide	1.32E-02	7.30E+01	1.81E-04	ou	3.22E-01	5.00E+03	6.43E-05	92
Hydrogen Cyanide	2.56E+00	3.13E+00	8.19E-01	ou	6.23E+01	5.17E+03	1.20E-02	5
Particulates								
Total Suspended Particulate	4.94E+00	5.00E+01	9.88E-02	ou	3.00E+01	NA		na
PM10	5.08E+00	5.00E+01	1.02E-01	ou	3.09E+01	AN		na
PM2.5	3.76E+00	1.50E+01	2.51E-01	ou	2.29E+01	AA		na
Metals								
Aluminum	1.48E-02	5.11E+00	2.90E-03	OU	3.61E-01	3.00E+04	1.20E-05	2
Antimony	1.92E-01	1.46E+00	1.31E-01	ou	4.67E+00	1.50E+03	3.11E-03	on
Arsenic	NA NA	4.47E-04		na	NA	3.00E+01		na
Barium	5.60E-02	5.21E-01	1.07E-01	no	1.36E+00	1.50E+03	9.09E-04	20
Beryllium	N N	8.00E-04		na	NA	5.00E+00		na
Cadmium	NA	1.07E-03		na	NA	3.00E+01		na
Calcium	4.71E-02	N<		na	1.15E+00	3.00E+04	3.82E-05	01
Chromium	N A	1.53E-04		na	NA	1.50E+03		na
Cobalt	NA V	2.20E+02		na	NA A	6.00E+01		na
Copper	1.88E+00	1.46E+02	1.29E-02	2	4.57E+01	3.00E+03	1.52E-02	OL OL
Lead	5.17E-01	1.50E+00	3.44E-01	2	1.26E+01	1.50E+02	8.38E-02	no

Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartri	dge, 5.56- DC	mm DIC:	Cartridge, 5.56-rnm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} /	> 1?	С _{асиt} е (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Magnesium	۸A	۸N		па	ΑN	3.00E+04		a
Manganese	NA	5.11E-02		na	AN	3.00E+03		2 2
Nickel	NA NA	7.30E+01		па	A'A	3.00E+03		2 2
Selenium	NA	1.83E+01		na	X.	6.00E+02		0 0
Silver	NA	1.83E+01		na	X.	3.00E+02		2 0
Thallium	NA	2.56E-01		na	AN	3.00E+02		2 2
Vanadium	A A	2.56E+01		na	¥	1.50E+02		2 0
Zinc	2.47E-01	1.10E+03	2.25E-04	2	6.00E+00	3.00E+04	2.00E-04	2
TO-11 Carbonyls								2
Formaldehyde	3.26E-03	1.48E-01	2.21E-02	2	4.62E-02	1.23E+03	3 76E-05	2
Acetaldehyde	NA	8.73E-01		ē	AZ AZ	1.80E+04	0.101	2 2
Acetone	NA	3.65E+02		na	AN	2.37E±0R		<u> </u>
Acrolein	NA	2.09E-02		Da L	AN	2.30E±02		200
Proprionaldehyde	1.48E-03	N		Ba	3.60E-02	7.50E+04	4 80F-07	2 2
Crotonaldehyde	NA	3.54E-03		па	AA	5.72E+03		2 2
Butyraldehyde	VA	NV		БĒ	AN	7.38E+04		2 2
Benzaldehyde	¥	3.65E+02		па	AA	1.50E+04		ē
Isovaleraldenyde	Y.	N		na	Ϋ́	AN		E C
Valeraidehyde	NA	N		na	ΑN	AA		200
o,m,p-1 olualdehyde	Y.	N		na	ΑΝ	AN		na
7 5 Dimothulbonolar	NA.	2		па	۷A	NA		БП
VOCs	¥2.	2		na	¥.	AN A		na
Propene	1.16E-02	N		2	7.07E-02	VIV		
Dichlorodifluoromethane	5.22E-05	2.09E+02	2.50E-07	2 2	1 27E-03	1 485±07	0 675 44	E E
Chlorodifluoromethane	NA	5.11E+04		E	AN	4415+06	0.0/E-11	2
Freon 114	NA	N/		na	AN	2 10F±07		2 2
Chloromethane	1.54E-04	1.07E+00	1.44E-04	2	8.72E-03	2.06F+05	4 23E-08	2 2
Vinyl Chloride	NA	2.20E-02		ā	NA A	1.28E+04	7.505-00	2 2
1,3-Butadiene	4.67E-04	3.74E-03	1.25E-01	2	6.63E-03	2.20E+04	3.01E-07	2 2
Bromomethane	NA:	5.21E+00		па	AN	5.82E+04		2
Chioroethane	NA	2.32E+00		па	NA	2.64E+06		na

Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartri	dge, 5.56-	mm E	Cartridge, 5.56-mm Ball, M855 (M16A1)	116A1)		
			2	<u>:</u> [DODIC: Ausy			
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (μg/m³)	C _{chronlc} /	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Dichlorofluoromethane	NA	2.09E+02		na	AZ AZ	1.48E+07		5
Irichlorofluoromethane	NA V	7.30E+02		na	A'N	2.81E+06		2 2
Pentane	AN	N		na	Ϋ́	1.80E+06		2 0
Acrolein	NA	2.09E-02		na	A'A	2.30E+02		2 2
1,1-Dichloroethene	NA	· 5.21E+02		na	AA	7.92E+04		<u> </u>
Freon 113	AA	3.13E+04		na	A'A	9.58E+06		0 0
Acetone	1.26E-01	3.65E+02	3.46E-04	9	3.07E+00	2.37E+06	1 30E-08	0 0
Methyl lodide	NA	N		na	A'A	1.45E+05	20 - 200 - 1	2 2
Carbon Disultide	NA	7.30E+02		na	AA	3.11E+04		2 6
Acetonitrie	2.90E-02	6.20E+01	4.67E-04	OU	7.05E-01	1.01E+05	6 99F-06	2 2
3-Chioropropene	NA	1.04E+00		na	NA	9.39E+03	2000	2 6
Methylene Chloride	4.50E-03	4.09E+00	1.10E-03	92	6.38E-02	6.96E+05	9 17E-08	2 5
tert-Butyl Alcohol	7.40E-04	N		na	1.80E-02	4.55E+05	3 96E-08	2 2
Acrylonitrie	3.47E-03	2.83E-02	1.23E-01	0	4.92E-02	2.17E+04	2.27E-06	2 2
trans-1,z-Dichloroethene	Y.	7.30E+01		пa	¥	4.95E+04		2 2
Metnyl t-Butyl Etner	2.38E-05	3.13E+03	7.61E-09	2	5.79E-04	4.32E+05	1.34E-09	2
Texane	8.04E-02	2.09E+02	3.85E-04	ou	1.96E+00	5.28E+05	3.70E-06	2
i, i-Dicnioroetnane	AN .	5.21E+02		na	ΑN	1.21E+06		2 2
Vinyl Acetate	¥N.	2.09E+02		na	¥	1.92E+04		2 0
cis-i,z-Dichiorethene	AN .	3.65E+01		na	NA	7.92E+05		8 6
Ethyl Acetate	1 70F 03	1.04E+03		g	NA	8.85E+05		na
Methyl Acrylate	1.7 9E-U3	3.29E+03	5.45E-07	2	4.36E-02	1.44E+06	3.03E-08	9
Chloroform		1.10E+02		na	NA	NA		na
4 4 Trichlomo	VAI	8.35E-02		па	NA	9.76E+03		na En
Carbon Total Line	4.00E-04	1.04E+03	3.83E-07	no	2.43E-03	1.94E+06	1.25E-09	2
4.2 Dishlazathan	NA O	1.28E-01		na	AN	1.28E+05		2
1,z-Diciliorethane	8.62E-04	7.39E-02	1.17E-02	no	4.89E-02	8.08E+03	6.06E-06	2
Pelizelle De Contraction of the Period of th	3.72E-02	2.49E-01	1.50E-01	9	5.28E-01	1.56E+05	3.39E-06	02
Isoucialle (4,4,4-tillifethyipentane)	AN	N/		na	ΑN	3.50E+05		2
Tripliane	2.71E-05	2		na	6.58E-04	1.80E+06	3.65E-10	2
Fiby Acylete	X S	1.04E+03		па	ΑN	1.94E+06		na na
בייון יאין	£2.	1.40E-01		na	ΑΝ	6.14E+04		an

		Cartri	dge, 5.56- D©	mm B	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronlc} /	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
1,2-Dichloropropane	AN	9.89E-02		na	AN	5.08E+05		a
Methyl Methacrylate	Y V	7.30E+02		na	AA	4.09E+05		na
Dibromomethane	Y V	3.65E+01		na	NA	2.50E+05		E
1,4-Dioxane	NA VA	6.11E-01		na	A A	9.00E+04		an
Bromodichloromethane	NA NA	1.08E-01		na	AA	4.00E+03		E C
4-Methyl-2-Pentanone	N A	8.34E+01		пa	NA	3.07E+05		na L
Toluene	4.07E-03	4.02E+02	1.01E-05	2	2.48E-02	1.88E+05	1.32E-07	2
Octane	3.42E-04	۸N		Б	2.08E-03	AN		Da
trans-1,3-Dichloropropene	NA A	5.17E-02		na	AN	AA		na
Ethyl Methacrylate	NA	3.29E+02		na	AA	NA		g
1,1,2-Trichloroethane	NA	1.20E-01		na	A V	1.64E+05		na
Tetrachloroethene	NA	3.31E+00		na	NA NA	6.78E+05		na
2-Hexanone	NA	5.11E+00		ā	ΑN	4.09E+04		Da
Dibromochloromethane	NA	8.00E-02		пa	A	6.00E+03		na
1,2-Dibromoethane	NA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA	6.21E+01		па	NA	1.38E+05		na
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		na
Ethylbenzene	3.77E-04	1.06E+03	3.56E-07	2	9.16E-03	5.43E+05	1.69E-08	5
m&p-Xylene	5.13E-04	7.30E+02	7.03E-07	2	1.25E-02	6.51E+05	1.92E-08	92
o-Xylene	6.42E-04	7.30E+02	8.79E-07	2	1.56E-02	6.51E+05	2.40E-08	9
Styrene	8.43E-04	1.06E+03	7.97E-07	2	5.13E-03	2.13E+05	2.41E-08	00
Bromororm	¥.	1.75E+00		na	AN	6.20E+03		na
Cumene	¥Z.	4.02E+02		na	NA A	2.46E+05		па
1,1,2,2-1etrachloroethane	Y.	3.31E-02		na	NA	2.06E+04		БП
1,2,3-Trichloropropane	AN AN	9.61E-04		пa	NA	6.03E+04		na
Bromobenzene	¥	1.04E+01		na	NA	4.82E+04		Па
4-Ethyltoluene	4.80E-04	N		na	1.17E-02	1.25E+05	9.34E-08	2
1,3,5-Trimethylbenzene	¥	6.21E+00		na	NA	3.68E+05		na
Alpha Methyl Styrene	AN	2.56E+02		na	NA	NA		па
1,2,4-Trimethylbenzene	6.00E-04	6.21E+00	9.67E-05	2	1.46E-02	1.80E+05	8.11E-08	92
1,3-Dichlorobenzene	¥.	3.29E+00		ā	NA	3.61E+04		па
I,4-Dichlorobenzene	NA	3.06E-01		g	A A	6.61E+05		na

Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartri	dge, 5.56- DC	mm B	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (μg/m³)	Cacute/ ATV	> 13
Benzyl Chloride	NA	3.96E-02		па	AN	5 20F+03		5
1,2-Dichlorobenzene	NA	2.09E+02		na	NA	3.01E+05		200
Hexachlorethane	NA	4.80E-01		na	AN	2 90F+04		B 2
1,2,4-Trichlorobenzene	ΑN	2.08E+02		na	AN	3 715+04		<u> </u>
Hexachlorobutadiene	NA	8.73E-02		na	NA	3.21E+04		e e
Hydrocarbons								
Methane	1.25E+00	N		Ba	3.05F+01	3 30E+06	0 225 06	
Ethylene	9.34E-02	N N		a	2.27E+00	4 60F+05	4 94E-06	2 2
Acetylene	1.31E-02	N/		na	7.95E-02	AN	20	2 2
Ethane	5.31E-02	N/		ā	3.23E-01	ĄV		0 0
Propylene	1.39E-02	N		ББ	8.45E-02	AN		0 0
Propane	AN	N		ā	AN V	3.78E+06		2 2
Propyne (methyl acetylene)	NA	NN		na	¥	2.79F+06		2 2
Isobutane	NA	N		E	AN	9.52E+05		<u> </u>
1-Butene/Isobutylene (115-11-7)	AN .	N		na	AN	6.87E+06		2 6
1,3-butadiene/butane	ΨZ:	3.74E-03		па	NA	2.20E+04		Da C
cis-butene	YA.	N		na	NA	1.72E+04		na
euving-I	AA .	N/		na	NA	NA A		Da Da
2 Button (crotenia)	AN S	N/		na	NA	1.72E+04		na
n-Pentane	X X	N .		Б	AN AN	NA		па
n-Haxane	3 405 02	2 407 .00	100	e l	NA NA	1.80E+06		па
SVOCs	0.105-02	4.10ETUZ	1.62E-04	2	8.26E-01	5.28E+05	1.56E-06	2
n-nitrosodimethylamine	ΑN	1 37E-04		1				
bis(2-chloroethyl)ether	N A	5 82F-03		0 0	2 2	Z.50E+03		Ва
phenol	AN	2 10F±03		5	2	3.65E+U4		na
2-chlorophenoi	AN	1 R3E±03		2	¥	3.85E+04		na
1.3-Dichlorohanzana	S V	2.205-01		a E	¥2	5.25E+03		na
1 A-dichlorobanano	VN VI	3.295+00		na	ΑΝ	3.61E+04		na
1 2-dichlorobenages		3.06E-01		па	¥ V	6.61E+05		a
photograph of the photograph o	Y S	2.09E+02		па	AN A	3.01E+05		na
מווסוף ילבווסג	YA!	1.10E+03		па	AN AN	5.53E+04		na

		Cartri	dge, 5.56-	mm B	Cartridge, 5.56-mm Ball, M855 (M16A1)	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 1?
bis(2-chloroisopropyl)ether	AN	1.92E-01		na	Ą	6.99E+04		Б
2-methylphenol	N A	1.83E+02		na	AN	Ą		na
hexachloroethane	A'A	4.80E-01		na	ΑN	2.90E+04		na
n-nitroso-di-n-propylamine	NA	9.61E-04		na	ΑN	2.00E+02		na
4-methylphenol	A A	1.83E+02		na	NA A	Ϋ́		na
nitrobenzene	NA	2.09E+00		na	AN	1.51E+04		na
isophorone	NA	7.08E+00		na	Ϋ́	2.83E+04		na
2-nitrophenol	N A	NV		na	NA	AN AN		na
2,4-dimethylphenol	ΑΝ	7.30E+01		na	ΑΝ	NA NA		na
bis(2-chloroethoxy)methane	ΑΝ	N		na	AN	¥		na
2,4-dichlorophenol	ΝΑ	1.10E+01		na	ΑΝ	3.00E+04		na
1,2,4-trichlorobenzene	AN	2.08E+02		na	¥	3.71E+04		ē
naphthalene	3.72E-03	3.13E+00	1.19E-03	ou	9.04E-02	7.86E+04	1.15E-06	2
4-chloroaniline	NA	1.46E+01		na	NA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	NA	3.21E+04		ВП
4-chloro-3-methylphenol	NA	NV		na	NA	2.00E+04		na E
2-methylnaphthalene	NA	7.30E+01		na	NA	2.00E+04		Па
hexachlorocyclopentadiene	NA	7.30E-02		na	NA	2.23E+02		na
2,4,6-trichloraphenol	NA	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	NA	3.65E+02		na	NA	3.00E+04		па
2-chloronaphthalene	AN	2.92E+02		na	NA	6.00E+02		na
2-nitroaniline	AA	2.09E-01		na	NA	NA		na
Acenaphthylene	NA	N<		na	NA	2.00E+02		na
dimethylphthalate	AA	3.65E+04		na	NA	1.50E+04		na
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	NA	2.19E+02	-	na	NA	1.25E+03		na
3-nitroaniline	AA	N		na	NA	AN		na
2,4-dinitrophenol	NA A	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	NA	1.46E+01		na	NA	NA		БП
2,4-dinitrotoluene	NA AN	7.30E+00		Па	NA	6.00E+02		па
4-nitrophenol	AN .	2.92E+01		па	NA	3.00E+04		na
Fluorene	NA	1.46E+02		па	A V	7.50E+04		na

M855A1risk200m.xls

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Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartri	idge, 5.56- DC	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
4-chlorophenyl-phenylether	NA	N		Б	Ϋ́	ΑN		2
diethylphthalate	NA A	2.92E+03		na	NA NA	1.50F+04		2 2
4-nitroaniline	NA	N N		па	NA NA	9.00E+03		2 2
4,6-dinitro-2-methylphenol	NA	3.65E-01		gu	AN	5 00F+02		<u>a</u>
n-nitrosodiphenylamine(1)	AN	1.37E+00		БС	X X	NA		<u> </u>
4-bromophenyl-phenylether	NA	Ν		па	AN AN	NA VA		<u>a</u> a
hexachlorobenzene	AN	4.18E-03		пa	AN AN	7.50E+01		2 2
pentachlorophenol	AN S	5.60E-02		па	NA	1.50E+03		2 2
pnenanthrene	Y.	≥		na	AN	2.00E+03		E .
anthracene	NA A	1.10E+03		na	¥	6.00E+03		9 0
di-n-butyiphthalate	3.44E-03	3.65E+02	9.42E-06	2	8.36E-02	1.50E+04	5.58E-06	2 2
nuorantnene	NA NA	1.46E+02		eu	¥	3.00E+01		2 2
pyrene	AN A	1.10E+02		na	ΑΝ	1.50E+04		2 0
butylbenzylphthalate	AN A	7.30E+02		na	Ϋ́	5.00E+05		2 2
penzo(a)anthracene	NA NA	2.17E-02		na	¥	6.00E+02		2 0
chrysene	¥N.	2.17E+00		na	Ϋ́	2.00E+02		2 2
3,3-dichlorobenzidine	NA	1.50E-02		na	ΑN	6.21E+03		e c
Dis(2-ethylhexyl)phthalate	2.91E-02	4.80E-01	6.05E-02	no	1.65E+00	1.00E+04	1.65E-04	2
di-n-octylphthalate	NA.	7.30E+01		na	AN	1.50E+05		2
benzo(b)fluoranthene	¥.	2.17E-02		na	NA	AN AN		e e
penzo(k)riuorantnene	AN .	2.17E-01		na	NA	Ā		na
indepo(1.2.2 od)	¥2	2.1/E-03		па	NA	7.50E+03		na
dibora(a h)cochraggia	¥ S	2.17E-02		na	NA	AN		na
ulberiz(a,ii)antinacene	AN :	2.17E-03		na	AA	3.00E+04		na
penzo(g,n,l)perylene	AN	N		па	AN	3.00E+04		ā
TO-13 (PAHs)								
naphthalene	1 415.03	2 12E±00	4 507 04					
acenaphthylene	5 68E-05	O. ISE TOO	4.30E-04	2	3.43E-02	7.86E+04	4.36E-07	ou
Acenanthene	1.46E 06	7 401 .00	100	ē	1.38E-03	2.00E+02	6.91E-06	2
fliorene	1.10E-U3	4.19E+02	5.32E-08	2	2.83E-04	1.25E+03	2.27E-07	2
organitaciona	3.40E-03	1.40E+02	2.38E-07	2	8.45E-04	7.50E+04	1.13E-08	92
	J. 13E-03	2		Па	1.25E-03	2.00E+03	6.26E-07	2

		Cartri	dge, 5.56-r DO	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
anthracene	7.56E-06	1.10E+03	6.90E-09	2	1.84E-04	6.00E+03	3.06E-08	2
fluoranthene	5.94E-05	1.46E+02	4.07E-07	2	1.45E-03	3.00E+01	4.82E-05	2
pyrene	1.28E-04	1.10E+02	1.17E-06	2	3.12E-03	1.50E+04	2.08E-07	2
benzo(a)anthracene	1.05E-05	2.17E-02	4.86E-04	2	5.99E-04	6.00E+02	9.98E-07	2
chrysene	1.26E-05	2.17E+00	5.81E-06	2	7.15E-04	2.00E+02	3.57E-06	2
benzo(b)fluoranthene	2.35E-05	2.17E-02	1.08E-03	2	3.33E-04	NA		na
benzo(k)fluoranthene	9.19E-06	2.17E-01	4.24E-05	no	1.30E-04	ΑN		na
Benzo(e)pyrene	8.66E-05	NV		na	5.26E-04	ΑN		па
benzo(a)pyrene	1.26E-05	2.17E-03	5.82E-03	20	7.16E-04	7.50E+03	9.54E-08	2
indeno(1,2,3-cd)pyrene	2.15E-05	2.17E-02	9.92E-04	on	3.05E-04	ΝA		na
dibenz(a,h)anthracene	3.70E-06	2.17E-03	1.71E-03	2	2.10E-04	3.00E+04	7.00E-09	2
benzo(g,h,i)perylene	1.76E-04	NV		na	4.28E-03	3.00E+04	1.43E-07	2
Dioxins and Furans								
2378-Tetrachlorodibenzo-p-dioxin	AA	4.48E-08		na	NA	3.50E+00		па
12378-Pentachlorodibenzo-p-dioxin	A A	NV		na	NA	2.50E+00		na
123478-Hexachlorodibenzo-p-dioxin	۸A	NV		па	AN	A V		па
123678-Hexachlorodibenzo-p-dioxin	AA	NV		na	NA	1.50E+01		na
123789-Hexachlorodibenzo-p-dioxin	NA	1.48E-06		na	NA	AN		na
1234678-Heptachlorodibenzo-p-dioxin	1.23E-09	NV		na	7.49E-09	AN		na
OCDD	4.39E-09	Ž		na	1.07E-07	1.50E+02	7.12E-10	2
2378-Tetrachlorodibenzo-p-furan	AA	N		ā	NA	2.00E+00		na
12378-Pentachlorodibenzo-p-furan	A A	N		ā	NA	NA		na
23478-Pentachlorodibenzo-o-furan	Ā	N		na	NA	7.50E-02		ВП
123478-Hexachlorodibenzo-p-furan	ΝΑ	N		па	NA	7.50E+00		na
123678-Hexachlorodibenzo-p-furan	ΑN	N<		па	NA	2.50E+00		na
123789-Hexachlorodibenzo-p-furan	ΑΝ	NV		na	NA	AN		na
234678-Hexachlorodibenzo-p-furan	ΑΝ	N N		па	NA	1.50E+00		na
1234678-Heptachlorodibenzo-p-furan	2.38E-10	N		na	1.45E-09	NA		na
1234789-Heptachlorodibenzo-p-furan	AN	N		ä	NA	NA		па
OCDF	AA	N		g	NA	3.00E+02		па
Energetics								
Nitrobenzene	AN AN	2.09E+00		па	AN A	1.51E+04		na

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Table D-5: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 200 meter location

		Cartric	dge, 5.56-1 DC	6-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	Cacute (µg/m³)	Acute Toxicity Value (μg/m³)	Cacute/ ATV	> 12
2-Nitrotoluene	NA	3.65E+01		ā	ΑN	AA		60
3-Nitrotoluene	NA	3.65E+01		na	ΑΝ	AN		E
4-Nitrotoluene	NA	3.65E+01		na	NA	3.37E+04		na
Nitroglycerine	AA	4.80E-01		na	AN	NA A		па
1,3-Dinitrobenzene	AA	3.65E-01		na	NA	3.00E+03		na
2,6-Dinitrotoluene	ΑĀ	3.65E+00		na	ΑN	6.00E+02		Ba
2,4-Dinitrotoluene	NA	7.30E+00		na	AA	6.00E+02		na
1,3,5-Trinitrobenzene	AA	1.10E+02		na	NA	3.00E+04		Ba
2,4,6-Trinitrotoluene	NA	2.24E-01		па	NA	2.50E+04		na
RDX	AA	6.11E-02		na	AA	AA		Ba
4-Amino-2,6-Dinitrotoluene	NA	NV		na	AN	NA		na
2-Amino-2,6-Dinitrotoluene	AA	N		na	NA	1.50E+04		na
Tetryl	A'A	3.65E+01		na	NA	NA		na
HMX	NA	1.83E+02		na	Ą	AN		80
Pentaerythritoltetranitrate	NA	NV		na	Ą	5.00E+01		na
Dibutyl Phthalate	NA	3.65E+02		na	Αχ	1.50E+04		2
Dioctyl Phthalate	NA	4.80E-01		ē	ΑΝ	1.00E+04		Da E
Diphenylamine	NA	9.13E+01		па	Ϋ́Α	3.00E+04		na
Footnotes:	100000000000000000000000000000000000000							

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Cchronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Cacute: acute concentration

ATV: Acute toxicity value

Table D-6: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1): Total Petroleum Hydrocarbons - 200 meter location

	O.	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	١٦)
Compound	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Arometic. C. 2
Permanent Gases				O Company
Hexane	8.04E-02	NA	AN	ΑN
Benzene	NA	NA	8.69E-02	AN
Heptane	2.71E-05	NA	NA	AN
Toluene	NA	NA	4.07E-03	NA
Octane	3.42E-04	AN	NA	NA N
Ethylbenzene	NA	AN	3.77E-04	AN
m&p-Xylene	NA	NA	5.13E-04	NA
o-Xylene	NA	NA	6.42E-04	AN
Styrene	NA	AN	AN	8.43E-04
4-Ethyltoluene	NA	NA	NA	4.80E-04
1,2,4-Trimethylbenzene	NA	AN	AN	6.00E-04
Propylene	1.39E-02	AN	AN	NA
n-Hexane	3.40E-02	AN	AN	AN
naphthalene	NA	NA	NA	3 72F-03
naphthalene	NA	NA	AN	1.41E-03
acenaphthylene	NA	NA	NA	5.68E-05
Acenaphthene	NA	NA	AN	1.16E-05
fluorene	AA	NA	NA	3.48E-05
phenanthrene	AA	NA	AN	5.15E-05
anthracene	NA	NA	NA	7.56E-06
fluoranthene	NA	NA	NA	5.94E-05
Total (µg/m³)	1.29E-01	0.00E+00	9.25E-02	7.27E-03
Derived Health-Based Screening Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
Cchronic/HBSL	6.70E-06	0.00E+00	2.22E-04	3.49E-05
>1?	ou	OL OL	on On	2

	Ö	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	(1)
Compound	С _{сhronic} (µg/m³)	C _{chronic} (μg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
Footnotes:				
>1? = Is the ratio greater than one?				
NA = Not Applicable because compound was not detected				
Cehronic = chronic averaged air Concentration				
HBSL = Health-Based Screening Level				

		Cartri	dge, 5.56- DC	mm E	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Permanent Gases								
Ammonia (NH3)	4.77E+00	1.04E+02	4.58E-02	92	2.90E+01	1.75E+04	1.66F-03	5
Carbon Dioxide (CO2)	1.17E+02	ΛN		na	2.84E+03	5.40E+07	5.26E-05	2
Carbon Monoxide (CO)	2.28E+02	1.00E+04	2.28E-02	2	1.39E+03	2.30E+05	6.04E-03	2
Oxides of Nitrogen (as NO)	1.18E+01	1.00E+02	1.18E-01	2	2.87E+02	3.08E+04	9.32E-03	2
Sulfur Dioxide (SO2)	NA	8.00E+01		па	NA	7.89E+02		2
Acid Gases								
Hydrogen fluoride	NA	N		na	ΝΑ	1.60E+03		2
Hydrogen chloride	NA	2.08E+01		na	NA	4.50E+03		2 2
Hydrogen bromide	NA	ΛN		a	AN	9.93E+03		2
Nitric Acid	8.33E-02	ΛN		па	5.07E-01	1.30E+03	3.90E-04	2
Phosphoric acid	NA	1.04E+01		na	A'A	3.00E+03		2 2
Sulfuric Acid	NA	ΛN		na	A'A	2.00E+03		9 6
Cyanide								
Particulate Cyanide	NA	7.30E+01		na	AN	5.00E+03		2
Hydrogen Cyanide	3.78E+00	3.13E+00	1.21E+00	yes	9.20E+01	5.17E+03	1.78E-02	2
Particulates								
Total Suspended Particulate	5.55E+00	5.00E+01	1.11E-01	2	3.37E+01	A.A.		e c
PM10	5.69E+00	5.00E+01	1.14E-01	2	3.46E+01	AN		e c
PM2.5	3.92E+00	1.50E+01	2.62E-01	2	2.39E+01	AA		na
Metals								
Aluminum	2.10E-02	5.11E+00	4.11E-03	2	5.11E-01	3.00E+04	1.70E-05	2
Antimony	2.48E-01	1.46E+00	1.70E-01	2	6.02E+00	1.50E+03	4.01E-03	2
Arsenic	NA	4.47E-04		Па	Ą	3.00E+01		na
Barium	1.67E-01	5.21E-01	3.19E-01	2	4.05E+00	1.50E+03	2.70E-03	2
Beryllium	NA	8.00E-04		na	ΑN	5.00E+00		na
Cadmium	AA	1.07E-03		na	NA	3.00E+01		na
Calcium	6.17E-02	>N		na	1.50E+00	3.00E+04	5.00E-05	2
Chromium	NA	1.53E-04		na	NA	1.50E+03		na
Cobalt	AN	2.20E+02		na	NA	6.00E+01		na
Copper	2.25E+00	1.46E+02	1.54E-02	5	5.48E+01	3.00E+03	1.83E-02	2
Lead	7.17E-01	1.50E+00	4.78E-01	2	1.74E+01	1.50E+02	1.16E-01	2

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	dge, 5.56- DC	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Magnesium	۸A	NV		na	NA	3.00E+04		па
Manganese	AA	5.11E-02		na	ΑN	3.00E+03		Па
Nickel	NA	7.30E+01		na	AN	3.00E+03		na
Selenium	NA	1.83E+01		na	¥N	6.00E+02		na
Silver	AN	1.83E+01		na	¥	3.00E+02		na
Thallium	AN	2.56E-01		na	¥N	3.00E+02		па
Vanadium	۸A	2.56E+01		na	Y.	1.50E+02		Ba
Zinc	2.95E-01	1.10E+03	2.70E-04	OU	7.18E+00	3.00E+04	2.39E-04	92
TO-11 Carbonyls								
Formaldehyde	4.60E-03	1.48E-01	3.11E-02	2	6.52E-02	1.23E+03	5.30E-05	2
Acetaldehyde	AA	8.73E-01		na	NA	1.80E+04		na
Acetone	NA	3.65E+02		na	A A	2.37E+06		па
Acrolein	3.64E-03	2.09E-02	1.74E-01	ou	2.21E-02	2.30E+02	9.62E-05	2
Proprionaldehyde	ΝΑ	NV		na	NA	7.50E+04		па
Crotonaldehyde	ΑN	3.54E-03		na	NA	5.72E+03		па
Butyraldehyde	NA	₽		na	NA	7.38E+04		na
Benzaldehyde	NA	3.65E+02		na	NA	1.50E+04		au
Isovaleraldehyde	NA	N		na	NA	AN		na
Valeraldehyde	NA	N		na	NA	NA		na
o,m,p-Tolualdehyde	NA	≥		na	NA	NA		пa
Hexaldehyde	NA	≥		na	NA	AN		па
2,5-Dimethylbenzaldehyde	AA	2		na	A A	NA		пa
VOCs								
Propene	1.16E-02	NV		na	7.07E-02	Ā		na
Dichlorodifluoromethane	NA	2.09E+02		na	NA	1.48E+07		na
Chlorodifluoromethane	NA	5.11E+04		na	AA	4.41E+06		na
Freon 114	NA	N		na	NA.	2.10E+07		па
Chloromethane	8.65E-05	1.07E+00	8.10E-05	D O	4.91E-03	2.06E+05	2.38E-08	no
Vinyl Chloride	NA	2.20E-02		na	NA	1.28E+04		na
1,3-Butadiene	9.81E-04	3.74E-03	2.63E-01	00	1.39E-02	2.20E+04	6.33E-07	2
Bromomethane	AN A	5.21E+00		na	ΑN	5.82E+04		na
Chloroethane	NA	2.32E+00		na	ΑN	2.64E+06		na

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	idge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 1?
Dichlorofluoromethane	NA	2.09E+02		na	ΑN	1.48E+07		2
Trichlorofluoromethane	¥	7.30E+02		na	ΑN	2.81E+06		2 0
Pentane	NA	ΛN		na	A.	1.80E+06		2 2
Acrolein	NA	2.09E-02		В	NA NA	2.30F+02		2 2
1,1-Dichloroethene	NA	5.21E+02		Вa	¥	7.92E+04		2 2
Freon 113	NA	3.13E+04		па	ΑN	9.58E+06		2 2
Acetone	3.54E-03	3.65E+02	9.70E-06	92	8.61E-02	2.37E+06	3 635-08	2
Methyl lodide	NA	NV		Б	AN A	1.45E+05	2000	2 2
Carbon Disulfide	A V	7.30E+02		па	¥ _N	3.11E+04		0 0
Acetonitrile	8.89E-02	6.20E+01	1.43E-03	2	2.16E+00	1.01E+05	2 15E-05	2 2
3-Chloropropene	NA	1.04E+00		ББ	AN AN	9.39E+03	2.101-00	2 2
Methylene Chloride	1.21E-02	4.09E+00	2.96E-03	92	1.72E-01	6.96E+05	2 4RE-07	2 2
tert-Butyl Alcohoi	NA	NV		ā	AN	4.55E+05	2.105-07	2 2
Acrylonitrile	3.03E-03	2.83E-02	1.07E-01	5	4.30E-02	2.17E+04	1 98F-06	2 6
trans-1,2-Dichloroethene	NA	7.30E+01		па	ΑΝ	4.95E+04		2 2
Methyl t-Butyl Ether	AN	3.13E+03		па	ΑΝ	4.32E+05		2 2
Hexane	1.99E-02	2.09E+02	9.54E-05	OU	4.84E-01	5.28E+05	9.16E-07	2
1,1-Dichloroethane	AN.	5.21E+02		na	ΝΑ	1.21E+06		E
Vinyl Acetate	Ψ.	2.09E+02		na	A'A	1.92E+04		2 2
cis-1,2-Dichloroethene	AN :	3.65E+01		na	NA	7.92E+05		2
Z-Butanone	NA	1.04E+03		В	NA	8.85E+05		ē
Methyl Action	4.5/E-03	3.29E+03	7.83E-07	2	6.25E-02	1.44E+06	4.34E-08	2
Chloroform	¥ S	1.10E+02		ē	ΑA	NA		na
111000000	NA.	8.35E-02		na	NA	9.76E+03		e C
I, I, I-I richloroethane	2.41E-04	1.04E+03	2.31E-07	2	1.46E-03	1.94E+06	7.54E-10	2
Carbon Tetrachloride	Y N	1.28E-01		na	Ϋ́	1.28E+05		200
1,z-Dichloroethane	8.27E-04	7.39E-02	1.12E-02	5	4.69E-02	8.08E+03	5.81E-06	2
Personal de la contraction de	4.23E-U2	2.49E-01	1.70E-01	2	6.00E-01	1.56E+05	3.85E-06	2
Isoociale (4,2,4-unitentyipemane)	¥N.	N.		na	NA	3.50E+05		na
Trichlorocthon	AN S	N/		g	AN	1.80E+06		na
Ethyl Acrylate	¥ 2	1.04E+03		g	Ϋ́	1.94E+06		na
Luij od jake	Į.	1.40E-01		па	ΑΝ	6.14E+04		na

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	dge, 5.56-r DO	nm B	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (μg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
1,2-Dichloropropane	NA	9.89E-02		na	AN	5.08E+05		na
Methyl Methacrylate	NA	7.30E+02		na	NA	4.09E+05		na
Dibromomethane	NA	3.65E+01		na	NA	2.50E+05		na
1,4-Dioxane	AN	6.11E-01		na	AN	9.00E+04		na
Bromodichloromethane	NA	1.08E-01		na	NA	4.00E+03		пa
4-Methyl-2-Pentanone	NA	8.34E+01		na	NA	3.07E+05		na
Toluene	4.79E-03	4.02E+02	1.19E-05	OU	2.91E-02	1.88E+05	1.55E-07	ou
Octane	NA	NV		na	AN	NA		na
trans-1,3-Dichloropropene	NA	5.17E-02		na	AN	AN		na
Ethyl Methacrylate	NA	3.29E+02		na	AN	NA		na
1,1,2-Trichloroethane	NA	1.20E-01		na	NA	1.64E+05		na
Tetrachloroethene	NA	3.31E+00		na	NA	6.78E+05		na
2-Hexanone	NA	5.11E+00		na	NA	4.09E+04		na
Dibromochloromethane	NA	8.00E-02		na	NA	6.00E+03		na
1,2-Dibromoethane	. VA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA	6.21E+01		na	NA	1.38E+05		na
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		na
Ethylbenzene	4.51E-04	1.06E+03	4.26E-07	no	1.10E-02	5.43E+05	2.02E-08	on O
m&p-Xylene	1.01E-03	7.30E+02	1.38E-06	no	2.46E-02	6.51E+05	3.77E-08	ou
o-Xylene	5.56E-04	7.30E+02	7.61E-07	0	1.35E-02	6.51E+05	2.08E-08	n O
Styrene	1.35E-03	1.06E+03	1.28E-06	2	8.23E-03	2.13E+05	3.87E-08	ou
Bromoform	NA	1.75E+00		па	ΑΝ	6.20E+03		na
Cumene	NA	4.02E+02		na	NA NA	2.46E+05		na
1,1,2,2-Tetrachloroethane	NA	3.31E-02		na	NA NA	2.06E+04		na
1,2,3-Trichloropropane	NA	9.61E-04		na	NA	6.03E+04		na
Bromobenzene	NA	1.04E+01		na	NA	4.82E+04		na
4-Ethyltoluene	2.34E-04	NV		na	5.70E-03	1.25E+05	4.56E-08	2
1,3,5-Trimethylbenzene	1.60E-04	6.21E+00	2.58E-05	no	3.89E-03	3.68E+05	1.06E-08	on O
Alpha Methyl Styrene	NA	2.56E+02		na	NA	NA		na
1,2,4-Trimethylbenzene	4.71E-04	6.21E+00	7.59E-05	0	1.14E-02	1.80E+05	6.36E-08	ou
1,3-Dichlorobenzene	ΝΑ	3.29E+00		na	Y V	3.61E+04		na
1,4-Dichlorobenzene	NA	3.06E-01		na	NA A	6.61E+05		na
								l

		Cartri	dge, 5.56-	mm B	Cartridge, 5.56-mm Ball, M855 (M16A2)	116A2)		
			3	DODIC: A059	A059			
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Benzyl Chloride	NA	3.96E-02		na	Ϋ́	5.20F+03		2
1,2-Dichlorobenzene	NA	2.09E+02		па	AN	3 01E+05		<u> </u>
Hexachlorethane	NA	4.80E-01		Ba	NA NA	2 90F±04		la I
1,2,4-Trichlorobenzene	AN	2.08E+02		20	NA	2 715+04		Ja
Hexachlorobutadiene	NA A	8.73E-02		па	A A	3.21E+04		e e
Hydrocarbons								
Methane	1.47E+00	N/		na	3.59E+01	3.30E+08	1 005 05	1
Ethylene	1.10E-01	ΛN		БĒ	2.67E+00	4.60E+05	5 80E-05	2 2
Acetylene	1.49E-02	N/		na	9 07F-02	NA	0.005	2
Ethane	6.02E-02	N		2	3.66F-01	V.		Па
Propylene	2.18E-02	N		2	1 33E-01			Ja
Propane	NA NA	N		2 2	NA	3 78E+06		na
Propyne (methyl acetylene)	A V	N		na Eu	AN	2.70E+00		a
sobutane	Ą	N		2	NA	0 525+06		па
1-Butene/Isobutylene (115-11-7)	1.29E-02	N		2	3.13E-01	6.32E+03	A FEE OF	Ja
1,3-Butadiene/butane	AN	3.74E-03		na E	AN	2 20E+04	4.33E-00	2
cis-butene	NA	N		e C	AN	1 725+04		B
1-Butyne	NA	N		na	AN	NA		19
trans-Butene	NA	N		na E	N N	1 72F+04		<u> </u>
2-Butyne (crotonylene)	NA	NV		Вã	¥	NA NA		0 0
n-Pentane	AN	N		па	A	1.80E+06		2
SVOCe	1.93E-02	2.10E+02	9.19E-05	2	4.70E-01	5.28E+05	8.89E-07	2
o-includedinostin-a								
hie/2 objected/bather	¥ S	1.3/E-04		Па	NA	2.50E+03		na
Dis(£-ciriotoetifyi)etrier	¥.	5.82E-03		na	NA	5.85E+04		na
lonelio Conference	¥Z.	2.19E+03		na	NA	3.85E+04		Da
1.3 Dichlorch	XX.	1.83E+01		na	NA	5.25E+03		na
, s-Dicilioropenzene	Y.	3.29E+00		na	NA	3.61E+04		na
1.2 dichlocherate	AN S	3.06E-01		na	NA	6.61E+05		na E
harani Jacob Literat	¥ S	2.09E+02		E E	NA	3.01E+05		ВП
מווכטון מוכסווסו	NA	1.10E+03		па	NA	5.53E+04		na

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	dge, 5.56⊣ D©	56-mm Ball, M 8 DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronlc} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
bis(2-chloroisopropyl)ether	AN	1.92E-01		na	AN	6.99E+04		na
2-methylphenol	AA	1.83E+02		na	AN	NA		па
hexachloroethane	AN	4.80E-01		na	AN	2.90E+04		na
n-nitroso-di-n-propylamine	NA	9.61E-04		па	AN	2.00E+02		na
4-methylphenol	NA	1.83E+02		na	NA	NA		na
nitrobenzene	AN	2.09E+00		na	AN	1.51E+04		na
isophorone	AN	7.08E+00		na	AA	2.83E+04		na
2-nitrophenol	AN	NV		na	NA	NA		na
2,4-dimethylphenol	ΑΝ	7.30E+01		na	AN	NA		па
bis(2-chloroethoxy)methane	ΑΝ	N/		na	NA	NA		na
2,4-dichlorophenol	AN	1.10E+01		ua	NA	3.00E+04		na
1,2,4-trichlorobenzene	AN	2.08E+02		na	NA	3.71E+04		ua
naphthalene	1.46E-03	3.13E+00	4.67E-04	ou	3.55E-02	7.86E+04	4.52E-07	ဥ
4-chloroaniline	NA	1.46E+01		na	AA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	Š	3.21E+04		na
4-chloro-3-methylphenol	NA	≥ N		na	A V	2.00E+04		na
2-methylnaphthalene	NA	7.30E+01		na	¥ Z	2.00E+04		па
hexachlorocyclopentadiene	NA	7.30E-02		na	Υ V	2.23E+02		па
2,4,6-trichlorophenol	NA	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	AN	3.65E+02		na	NA	3.00E+04		na
2-chloronaphthalene	NA	2.92E+02		na	Ϋ́	6.00E+02		na
2-nitroaniline	NA	2.09E-01		na	Ϋ́	NA		па
Acenaphthylene	NA	NV		na	NA	2.00E+02		na
dimethylphthalate	NA	3.65E+04		na	NA	1.50E+04		na
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	NA	2.19E+02		na	NA	1.25E+03		na
3-nitroaniline	NA	NV		na	NA	NA		na
2,4-dinitrophenol	NA	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	NA	1.46E+01		na	NA NA	NA		na
2,4-dinitrotoluene	NA	7.30E+00		na	A A	6.00E+02		пa
4-nitrophenol	NA	2.92E+01		Ba	A A	3.00E+04		Б
Fluorene	NA	1.46E+02		na	NA NA	7.50E+04		na

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M855A2risk200m.xls

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	dge, 5.56- DC	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
4-chlorophenyl-phenylether	AN	NΛ		na	ΑÑ	NA		na
diethylphthalate	NA	2.92E+03		na	AN AN	1.50E+04		200
4-nitroaniline	NA	NV		na	A'N	9.00E+03		2 2
4,6-dinitro-2-methylphenol	AA	3.65E-01		na	¥	5.00E+02		2 2
n-nitrosodiphenylamine(1)	AA	1.37E+00		na	ΑN	AN		n en
4-bromophenyl-phenylether	NA	N		na	ΑN	AN		na Eu
hexachlorobenzene	NA	4.18E-03		na	AN	7.50E+01		БП
pentachlorophenol	AA	5.60E-02		na	NA	1.50E+03		na
phenanthrene	Y S	≥		na	NA	2.00E+03		na
anthracene	AN S	1.10E+03		na	NA	6.00E+03		na
di-n-butyiphthalate	1.63E-03	3.65E+02	4.48E-06	인	3.97E-02	1.50E+04	2.65E-06	2
fluoranthene	Y S	1.46E+02		na	NA	3.00E+01		na
pyrene	NA	1.10E+02		na	NA	1.50E+04		na
butylbenzylphthalate	A V	7.30E+02		na	NA	5.00E+05		na
benzo(a)anthracene	A V	2.17E-02		na	AN	6.00E+02		na
chrysene	AA	2.17E+00		na	NA	2.00E+02		na
3,3-dichlorobenzidine	NA.	1.50E-02		na	NA	6.21E+03		na
bis(2-ethylhexyl)phthalate	NA	4.80E-01		na	AN	1.00E+04		na
di-n-octy/phthalate	NA A	7.30E+01		na	NA	1.50E+05		na
benzo(b)fluoranthene	¥.	2.17E-02		na	NA	۸A		na
penzo(K)filuoranthene	¥.	2.17E-01		na	ΑΑ	۸A		па
benzo(a)pyrene	Y.	2.1/E-03		na	AA A	7.50E+03		БП
indeno(1,2,3-cd)pyrene	AN:	2.17E-02		Б	ΑΑ	NA		na
dibenz(a,h)anthracene	AN N	2.17E-03		пa	NA	3.00E+04		na
benzo(g,h,i)perylene	AN A	>N		na	NA	3.00E+04		na
(2) (4) (A)								
IO-13 (PAHS)	-, -,							
naphthalene	1.24E-03	3.13E+00	3.97E-04	2	3.02E-02	7.86E+04	3.85E-07	92
acenaphthylene	5.39E-05	>N		na	1.31E-03	2.00E+02	6.56E-06	2
Acenaphthene	1.05E-05	2.19E+02	4.79E-08	2	2.55E-04	1.25E+03	2.04E-07	2
fluorene	2.98E-05	1.46E+02	2.04E-07	92	7.26E-04	7.50E+04	9.68E-09	2
pnenantnene	4.10E-05	AN N		па	9.97E-04	2.00E+03	4.99E-07	92

Table D-7: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 200 meter location

		Cartri	dge, 5.56-ı DO	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)	. Ç	
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 13
anthracene	7.48E-06	1.10E+03	6.83E-09	no D	1.82E-04	6.00E+03	3.03E-08	2
fluoranthene	6.36E-05	1.46E+02	4.36E-07	5	1.55E-03	3.00E+01	5.16E-05	2
pyrene	1.61E-04	1.10E+02	1.47E-06	2	3.92E-03	1.50E+04	2.61E-07	2
benzo(a)anthracene	1.52E-05	2.17E-02	7.01E-04	5	8.62E-04	6.00E+02	1.44E-06	2
chrysene	1.52E-05	2.17E+00	7.01E-06	20	8.62E-04	2.00E+02	4.31E-06	9
benzo(b)fluoranthene	2.13E-05	2.17E-02	9.83E-04	no	3.02E-04	AN		na
benzo(k)fluoranthene	1.05E-05	2.17E-01	4.86E-05	no	1.50E-04	. AN		na
Benzo(e)pyrene	6.94E-05	ΛN		na	4.22E-04	۷V		na
benzo(a)pyrene	2.68E-05	2.17E-03	1.24E-02	20	1.52E-03	7.50E+03	2.03E-07	no
indeno(1,2,3-cd)pyrene	3.16E-05	2.17E-02	1.46E-03	OU.	4.49E-04	ΑN		Па
dibenz(a,h)anthracene	2.74E-06	2.17E-03	1.26E-03	OU	1.55E-04	3.00E+04	5.18E-09	00
benzo(g,h,i)perylene	1.73E-04	NV		na	4.20E-03	3.00E+04	1.40E-07	2
Dioxins and Furans								
2378-Tetrachlorodibenzo-p-dioxin	NA	4.48E-08		па	NA	3.50E+00		na
12378-Pentachlorodibenzo-p-dioxin	NA	NV		na	NA	2.50E+00		na
123478-Hexachlorodibenzo-p-dioxin	AN	N		na	NA	NA		na
123678-Hexachlorodibenzo-p-dioxin	NA	NV		na	NA	1.50E+01		na
123789-Hexachlorodibenzo-p-dioxin	NA	1.48E-06		na	NA	AN		na
1234678-Heptachlorodibenzo-p-dioxin	NA	NV		na	NA	NA		na
OCDD	NA	N		na	NA	1.50E+02		na
2378-Tetrachlorodibenzo-p-furan	ΑΝ	Ž		Па	A A	2.00E+00		na
12378-Pentachlorodibenzo-p-furan	ΑΝ	≥ N		пa	ΝΑ	NA NA		na
23478-Pentachlorodibenzo-o-furan	NA	NV		na	NA	7.50E-02		na
123478-Hexachlorodibenzo-p-furan	NA	N		na	NA	7.50E+00		na
123678-Hexachlorodibenzo-p-furan	NA	NV		na	NA	2.50E+00		na
123789-Hexachlorodibenzo-p-furan	NA	NV		na	NA	ΝA		na
234678-Hexachlorodibenzo-p-furan	NA	NV		na	NA	1.50E+00		na
1234678-Heptachlorodibenzo-p-furan	NA	NV		na	NA	AN		na
1234789-Heptachlorodibenzo-p-furan	NA	N N		na	NA	NA		na
OCDF	1.21E-10	N<		na	2.94E-09	3.00E+02	9.81E-12	no
Energetics								
Nitrobenzene	NA	2.09E+00		па	Ϋ́	1.51E+04		na

		Cartri	dge, 5.56-r DO	56-mm Ball, IV DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	Cchronic	Health-Based Screening Level	C _{chronic} /	× 12	Cacute	Acute Toxicity Value	C / ATV	3
	(11)(11)	(µg/m³)	Jegu L		(hg/m²)	(µg/m³)	acute, A t	<u>.</u>
2-Nitrotoluene	NA	3.65E+01		Бa	ĄN	AN		
3-Nitrotoluene	NA	3.65E+01		g	ΑΝ	NA		g
4-Nitrotoluene	NA	3.65E+01		E	ΑΝ	3 375±04		g
Nitroglycerine	AN	4.80E-01		2	ΔN	0.57 L 104		ng
1,3-Dinitrobenzene	NA A	3.65E-01		2 2		200.		na
2,6-Dinitrotoluene	¥ V	3.65E+00		2 2	2 2	3.00E+03		na
2,4-Dinitrotoluene	X.	7 30F+00		0 0		6.00E+02		па
1.3.5-Trinitrobenzene	NA	1 100-00		<u>a</u>	¥Z.	6.00E+02		па
2.4.6-Trinitrotolilene		7 745 04		g	ΔN	3.00E+04		na
RDX		2.24E-UI		па	ΝΑ	2.50E+04		na
4-Amino-2 6-Dinitrotolijana		0.115-02		E E	ΔN	AN		na
2-Amino-2.6-Dinitratoluene	Z V			na	AN	NA A		Б
Tetryl	AN	3 65E+01		e l	Y.	1.50E+04		na
HMX	ΔN	1 825,101		В	¥Z.	NA		na
Pentaerythritoltetranitrate	V.	1.035702		E S	¥ V	NA		пa
Dibutyl Phthalate	2 2	NV SEFT.00		па	Ϋ́	5.00E+01		na
Dioctyl Phthalate	Q A	3.03E+02		g	¥	1.50E+04		па
Dinhenvlamine		4.000-01		E E	AA	1.00E+04		na
	¥.	9.13E+01		na	¥.	3.00E+04		E
oot local								:

Footnotes:

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Cehronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Cacute: acute concentration

ATV: Acute toxicity value

	S	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	12)
Compound	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic-C>8
Permanent Gases				O.O. Sandara
Hexane	1.99E-02	AN	AN	AN
Benzene	NA	NA	9.87E-02	ΑN
Toluene	AN	NA	4.79E-03	NA
Ethylbenzene	NA	NA	4.51E-04	NA
m&p-Xylene	NA	AN	1.01E-03	NA
o-Xylene	NA	NA	5.56E-04	AN
Styrene	NA	AN	AN	1.35E-03
4-Ethyltoluene	NA	NA	NA	2.34E-04
1,3,5-Trimethylbenzene	NA	NA	AN	1.60E-04
1,2,4-Trimethylbenzene	NA	NA	AN	4.71E-04
Propylene	2.18E-02	NA	AN	NA
1-Butene/Isobutylene (115-11-7)	1.29E-02	NA	NA	NA
n-Hexane	1.93E-02	NA	AN	NA A
naphthalene	NA	NA	NA	1.46E-03
naphthalene	NA	NA.	NA	1.24E-03
acenaphthylene	NA	NA	NA	5.39E-05
Acenaphthene	A'A	NA	NA	1.05E-05
fluorene	NA	NA	NA	2.98E-05
phenanthrene	NA A	NA	NA	4.10E-05
anthracene	NA	NA	NA	7.48E-06
fluoranthene	NA	NA	NA	6.36E-05
Total (µg/m³)	7.39E-02	0.00E+00	1.06E-01	5.13E-03
Derived Health-Based Screening Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
C _{chronic} /HBSL	3.85E-06	0.00E+00	2.53E-04	2.46E-05
>1?	υO	ОП	on Ou	00

	Ö	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIG: A059	(2)
Compound	C _{chronic}	C _{chronic} (µg/m³)	С _{chronic} (µg/m³)	C _{chronle} (μg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
Footnotes:				
>1? = Is the ratio greater than one?				
NA = Not Applicable because compound was not detected				
C _{chronic} = chronic averaged air Concentration				
HBSL = Health-Based Screening Level				

		Cartri	idge, 5.56- DC	mm E	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronte} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
Permanent Gases								
Ammonia (NH3)	2.28E+00	1.04E+02	2.19E-02	5	1 305+01	1 755.04	1000	
Carbon Dioxide (CO2)	6.33E+01	N		2 0	1 54E+03	F 40F : 07	7.94E-04	2
Carbon Monoxide (CO)	1.16E+02	1.00E+04	1 16F-02	2 2	7 075+03	2.40=+07	2.85E-05	2
Oxides of Nitrogen (as NO)	5.68E+00	1.00E+02	5.68E-02	2 2	1 38F±02	2.30E+03	3.07E-03	2
Sulfur Dioxide (SO2)	NA	8.00E+01		БĒ	NA NA	7 89F+02	4.49E-U3	2
Acid Gases						70.700.		g
Hydrogen fluoride	NA	N		2	AM	1 605103		
Hydrogen chloride	NA	2.08E+01		2 0	ΔN	1.00E+U3		g
Hydrogen bromide	A V	N		2	S N	4.3001-03		Б
Nitric Acid	NA NA	N		2 2		9.95E+U3		na
Phosphoric acid	¥.	1 04F+01		2 6		1.30E+03		na
Sulfuric Acid	3.43E-02	>N		2 2	NA 00 C	3.00E+03		па
Cyanide				2	Z.USE-01	Z.00E+03	1.04E-04	5
Particulate Cyanide	7.48E-03	7 30F±01	1 025 04	1	7001			
Hydrogen Cyanide	1 45F±00	2 425.00	1.02E-04	2	1.82E-U1	5.00E+03	3.64E-05	2
Particulates	201	3.135400	4.63E-01	2	3.52E+01	5.17E+03	6.81E-03	9
Total Suspended Particulate	2 705+00	5 000 04	1011					
PM10	2 875+00	3.00E+01	5.58E-02	2	1.70E+01	NA		na
PM2 R	2 425 - 00	5.00E+01	5.75E-02	2	1.75E+01	NA		ē
Metals	4.13E+00	1.50=+01	1.42E-01	2	1.29E+01	AA		Б
Aluminum	8 39F-03	5 11E±00	1645 00	1	1.00			
Antimony	1.08E-01	1 46F+00	7 435 02	2 2	2.04E-01	3.00E+04	6.80E-06	90
Arsenic	NA A	4 47F-04	7.435-02	2 8	2.04E+00	1.50E+03	1.76E-03	5
Barium	3.17E-02	5 21E-01	8 07E 02	<u> </u>	NA 1	3.00E+01		na
Beryllium	AN AN	8 OUE-04	0.07 E-02	2 1	/./UE-U1	1.50E+03	5.14E-04	no
Cadmium	ΔIV	1 075 03		g	YA V	5.00E+00		na
Calcium	2 RRE-02	1.0/E-03		E .	ΑΝ	3.00E+01		na
Chromium	NA	1 52E 04		er L	6.47E-01	3.00E+04	2.16E-05	92
Cobalt	V.	1.335-04		er E	AA	1.50E+03		Вп
Copper	1 06E+00	4.46E.02	100	БП	AN	6.00E+01		па
Lead	2 92E-01	1 505 100	7.28E-03	2	2.59E+01	3.00E+03	8.62E-03	9
	4.04L-01	1.30E+00	1.95E-01	2	7.10E+00	1.50E+02	4.74E-02	2

3/2/01

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

		Cartri	dge, 5.56- DC	mm DIC	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Magnesium	NA	ΛN		na	AN	3.00E+04		28
Manganese	NA	5.11E-02		na	N A A	3.00E+03		2
Nickel	NA NA	7.30E+01		na	NA	3.00E+03		na
Selenium	NA NA	1.83E+01		na	N A	6.00E+02		na
Silver	AN	1.83E+01		na	NA	3.00E+02		Ba
Thallium	N A	2.56E-01		па	NA	3.00E+02		E
Vanadium	N A	2.56E+01		na	NA	1.50E+02		na
Zinc	1.40E-01	1.10E+03	1.27E-04	92	3.39E+00	3.00E+04	1.13E-04	5
TO-11 Carbonyls								
Formaldehyde	1.84E-03	1.48E-01	1.25E-02	2	2.61E-02	1.23E+03	2.12E-05	2
Acetaldehyde	NA A	8.73E-01		na	NA	1.80E+04		na
Acetone	NA	3.65E+02		na	NA	2.37E+06		na
Acrolein	AN A	2.09E-02		na	NA	2.30E+02		na
Proprionaldehyde	8.37E-04	N N		na	2.04E-02	7.50E+04	2.71E-07	2
Crotonaldehyde	YN.	3.54E-03		na	AN	5.72E+03		na
Butyraldehyde	Ϋ́	<u>N</u>		na	NA	7.38E+04		Па
Benzaldehyde	NA.	3.65E+02		na	NA	1.50E+04		na
Isovaleraldehyde	AN	2		na	AN	AN		na
Valeraldehyde	NA	≥		па	NA	NA		na
o,m,p-I olualdenyde	AA :	N/		na	NA	NA		па
Hexaldenyde	Y S	N .		Б	AN	NA		пa
VOCS	5	2		Ē.	AN	¥		па
Propene	6.57E-03	N		ē	4 00F-02	ΔN		2
Dichlorodifluoromethane	2.95E-05	2.09E+02	1.41E-07	2	7.18F-04	1 48F+07	4 84E-11	9 2
Chlorodifluoromethane	N A	5.11E+04		Ē	NA NA	4.41E+06	1100	2 2
Freon 114	NA	NV		ā	AN	2.10E+07		2 2
Chloromethane	8.68E-05	1.07E+00	8.13E-05	2	4.93E-03	2.06E+05	2.39E-08	92
Vinyl Chloride	ΑN	2.20E-02		na	AN	1.28E+04		na
1,3-Butadiene	2.64E-04	3.74E-03	7.07E-02	2	3.75E-03	2.20E+04	1.70E-07	2
Bromomethane	¥N.	5.21E+00		na	NA	5.82E+04		na
Chloroethane	NA NA	2.32E+00		g	NA NA	2.64E+06		па

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

		Cartri	dge, 5.56- DC	mm B	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Dichlorofluoromethane	NA	2.09E+02		па	Ą	1.48E+07		ā
Trichlorofluoromethane	A A	7.30E+02		na	¥	2.81E+06		2 0
Pentane	A A	NV		na	¥	1.80E+06		2 0
Acrolein	NA	2.09E-02		Па	¥	2.30E+02		2 0
1,1-Dichloroethene	NA	5.21E+02		ВП	ΑN	7.92E+04		ם מ
Freon 113	NA	3.13E+04		Б	¥	9.58E+06		2 6
Acetone	7.13E-02	3.65E+02	1.95E-04	2	1.74E+00	2.37E+06	7.32F-07	2 2
Methyl lodide	NA	N		na	¥Z	1.45E+05		2 6
Carbon Disulfide	NA	7.30E+02		na	AN A	3.11E+04		2 2
Acetonitrile	1.64E-02	6.20E+01	2.64E-04	2	3.98E-01	1.01E+05	3.95E-06	2
3-Chloropropene	NA NA	1.04E+00		na	ΑΝ	9.39E+03		2 2
Methylene Chloride	2.54E-03	4.09E+00	6.22E-04	9	3.61E-02	6.96E+05	5 18F-08	2 2
tert-Butyl Alcohol	4.18E-04	N		na	1.02E-02	4.55E+05	2.24E-08	2
Acrylonitrile	1.96E-03	2.83E-02	6.94E-02	OL	2.78E-02	2.17E+04	1.28E-06	2
trans-1,2-Dichloroethene	NA	7.30E+01		na	NA	4.95E+04		2
Methyl t-Butyl Ether	1.35E-05	3.13E+03	4.30E-09	DU	3.27E-04	4.32E+05	7.58E-10	2 2
Hexane	4.54E-02	2.09E+02	2.18E-04	no	1.11E+00	5.28E+05	2.09E-06	2
1,1-Dichloroethane	NA	5.21E+02		na	ΑŽ	1.21E+06		2
Vinyl Acetate	NA	2.09E+02		na	ΑΝ	1.92E+04		2
cis-1,2-Dichloroethene	AN .	3.65E+01	·	na	AA	7.92E+05		ВП
Z-Butanone	NA S	1.04E+03		na	NA	8.85E+05		na n
Emyl Acetate	1.01E-03	3.29E+03	3.08E-07	2	2.46E-02	1.44E+06	1.71E-08	2
Chloroform	¥ S	1.10E+02		na	ΑĀ	NA		па
	NA NA	8.35E-02		na	NA NA	9.76E+03		na
1,1,1-I richloroethane	2.26E-04	1.04E+03	2.17E-07	no	1.37E-03	1.94E+06	7.07E-10	2
Carbon Tetrachloride	AN	1.28E-01		na	¥	1.28E+05		2 2
1,2-Dichloroethane	4.87E-04	7.39E-02	6.60E-03	по	2.77E-02	8.08E+03	3.42E-06	2
Benzene	2.11E-02	2.49E-01	8.45E-02	5	2.99E-01	1.56E+05	1.91E-06	2
Isooctane (2,2,4-trimethylpentane)	AN.	N		na	AN	3.50E+05		БП
Heptane	1.53E-05	N/		na	3.72E-04	1.80E+06	2.06E-10	2
l richioroethane	Ψ.	1.04E+03		na	AN	1.94E+06		na
Euryl Acrylate	¥N.	1.40E-01		na	ΝΑ	6.14E+04		БП

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

		Cartri	dge, 5.56-ı ⊡©	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	16A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronlc} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	C _{acute} / ATV	> 12
1,2-Dichloropropane	NA	9.89E-02		na	NA	5.08E+05		na
Methyl Methacrylate	NA	7.30E+02		na	NA	4.09E+05		na
Dibromomethane	AN	3.65E+01		па	NA	2.50E+05		na
1,4-Dioxane	AN	6.11E-01		БП	NA	9.00E+04		па
Bromodichloromethane	NA	1.08E-01		na	NA	4.00E+03		na
4-Methyl-2-Pentanone	NA	8.34E+01		na	NA	3.07E+05		na
Toluene	2.30E-03	4.02E+02	5.74E-06	on	1.40E-02	1.88E+05	7.47E-08	92
Octane	1.93E-04	N<		na	1.18E-03	NA		па
trans-1,3-Dichloropropene	NA	5.17E-02		na	NA	NA		па
Ethyl Methacrylate	AN	3.29E+02		na	NA	NA		na
1,1,2-Trichloroethane	NA	1.20E-01		na	NA	1.64E+05		na
Tetrachloroethene	NA	3.31E+00		na	NA	6.78E+05		na
2-Hexanone	NA	5.11E+00		na	NA	4.09E+04		na
Dibromochloromethane	NA	8.00E-02		na	NA	6.00E+03		na
1,2-Dibromoethane	NA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA	6.21E+01		па	NA NA	1.38E+05		na
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		па
Ethylbenzene	2.13E-04	1.06E+03	2.01E-07	OL	5.18E-03	5.43E+05	9.55E-09	OU
m&p-Xylene	2.90E-04	7.30E+02	3.97E-07	0	7.06E-03	6.51E+05	1.08E-08	no
o-Xylene	3.63E-04	7.30E+02	4.97E-07	2	8.82E-03	6.51E+05	1.36E-08	U0
Styrene	4.77E-04	1.06E+03	4.50E-07	ou	2.90E-03	2.13E+05	1.36E-08	no
Bromoform	NA	1.75E+00		Б	NA	6.20E+03		na
Cumene	NA	4.02E+02		ā	A A	2.46E+05		na
1,1,2,2-Tetrachloroethane	NA	3.31E-02		na	NA	2.06E+04		na
1,2,3-Trichloropropane	NA	9.61E-04		na	NA NA	6.03E+04		na
Bromobenzene	NA	1.04E+01		na	NA	4.82E+04		na
4-Ethyltoluene	2.71E-04	N		na	6.60E-03	1.25E+05	5.28E-08	OU
1,3,5-Trimethylbenzene	NA	6.21E+00		na	NA	3.68E+05		na
Alpha Methyl Styrene	NA	2.56E+02		ББ	NA	NA		na
1,2,4-Trimethylbenzene	3.39E-04	6.21E+00	5.47E-05	2	8.25E-03	1.80E+05	4.58E-08	no
1,3-Dichlorobenzene	NA	3.29E+00		na	NA	3.61E+04		na
1,4-Dichlorobenzene	NA	3.06E-01		па	NA	6.61E+05		na

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

ride (µg/m³) ride NA nzene NA nzene NA adiene NA adiene NA 3.00E-02 3.00E-02 3.00E-02		0	: ::	DODIC: A059			
	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	۲ ح	Cacute (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
	3.96E-02		па	AN	5.20E+03		2
	2.09E+02		na	AN	3.01E+05		2
	4.80E-01		na	AN	2.90E+04		2 2
	2.08E+02		Па	AN	3.71E+04		2 2
	8.73E-02		na	NA	3.21E+04		a e
	>N		na	1.72E+01	3.30E+06	5.22E-06	2
	N		па	1.28E+00	4.60E+05	2.79E-06	2
	N		B	4.49E-02	¥.		2 2
	N		na	1.82E-01	AN N		2 2
	N		E C	4.78E-02	NA		
	N		ē	A'A	3.78E+06		2 2
Propyne (methyl acetylene)	N N		БĒ	¥	2.79E+06		2 2
Isobutane	NΛ		na	¥	9.52E+05		2 2
.11-7)	NN		na	¥	6.87E+06		2
utane	3.74E-03		na	¥	2.20E+04		2 2
0	NV		па	AN	1.72E+04		2 2
	NV		па	Ϋ́	AN		2 2
	Š		па	ΑN	1.72E+04		2
ylene)	> N		na	AN	ΝΑ		a
	≥ N		па	AN	1.80E+06		па
n-Hexane 1.92E-02	2.10E+02	9.14E-05	2	4.67E-01	5.28E+05	8.84E-07	2
n-nitrosodimethylanine NA	1.37E-04		na	AN	2.50E+03		Па
yı)etner	5.82E-03		na	ΑN	5.85E+04		na
	2.19E+03		na	ΑΝ	3.85E+04		ec
	1.83E+01		na	ΑN	5.25E+03		20
	3.29E+00		na	ΑN	3.61E+04		2
	3.06E-01		na	ΨZ	6.61E+05		2
ane	2.09E+02		na	Ϋ́	3.01E+05		2
benzyl alcohol NA	1.10E+03		na	ΑN	5.53E+04		2

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

C _{chronic} Screening Level	Health-B Screening	ased	Cchronic	DIC:	cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059 sed	Acute Toxicity Value) \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7 7
	(hg/m²)	(µg/m³)	HBSL		(hg/m³)	(hg/m³)	acuta	
bis(2-chloroisopropyl)ether	Y.	1.92E-01		g	V V	6.99E+04		na
2-methylphenol	AN N	1.83E+02		па	NA NA	NA		na
hexachloroethane	NA V	4.80E-01		БП	A A	2.90E+04		na
n-nitroso-di-n-propylamine	NA	9.61E-04		na	NA	2.00E+02		na
4-methylphenol	NA	1.83E+02		na	NA	NA		na
nitrobenzene	NA	2.09E+00		na	NA	1.51E+04		na
isophorone	NA	7.08E+00		na	NA	2.83E+04		пa
2-nitrophenol	NA	NV		na	NA	NA		na
2,4-dimethylphenol	NA	7.30E+01		na	NA	NA		па
bis(2-chloroethoxy)methane	NA	NV		na	NA	NA		па
2,4-dichlorophenol	AA	1.10E+01		na	NA	3.00E+04		na
1,2,4-trichlorobenzene	NA	2.08E+02		na	NA	3.71E+04		na
naphthalene	2.10E-03	3.13E+00	6.72E-04	OL	5.11E-02	7.86E+04	6.50E-07	5
4-chforoaniline	NA	1.46E+01		na	NA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	NA	3.21E+04		na
4-chloro-3-methylphenol	NA	N		na	A A	2.00E+04		na
2-methylnaphthalene	ΝΑ	7.30E+01		na	NA	2.00E+04		na
hexachlorocyclopentadiene	ΝΑ	7.30E-02		na	NA	2.23E+02		na
2,4,6-trichlorophenol	AN	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	NA	3.65E+02		na	NA	3.00E+04		na
2-chforonaphthalene	AA	2.92E+02		na	NA	6.00E+02		na
2-nitroaniline	NA	2.09E-01		na	ΑĀ	NA		na
Acenaphthylene	ΑΝ	NV		na	NA	2.00E+02		вu
dimethylphthalate	ΑΝ	3.65E+04		na	NA	1.50E+04		eu
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	NA	2.19E+02		na	NA	1.25E+03		па
3-nitroaniline	NA	ΝΛ		na	NA	NA		na
2,4-dinitrophenol	NA	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	NA	1.46E+01		na	NA	NA		Па
2,4-dinitrotoluene	NA	7.30E+00		na	NA	6.00E+02		na
4-nitrophenol	AN.	2.92E+01		па	NA	3.00E+04		na
Fluorene	ĄN	1.46E+02		80	AN	7.50F+04		0

M855A1risk300m.xls

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

		Cartri	idge, 5.56- DC	6-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronlc} / HBSL	> 1?	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	× 1?
4-chlorophenyl-phenylether	AN	ΛN		ā	Ϋ́	NA A		2
diethylphthalate	NA	2.92E+03		na	¥N	1.50E+04		2 2
4-nitroaniline	NA	^N		па	¥	9.00E+03		2 2
4,6-dinitro-2-methylphenol	NA	3.65E-01		na	¥	5.00E+02		2 2
n-nitrosodiphenylamine(1)	NA	1.37E+00		na	ĄN	AN N		2 2
4-bromophenyl-phenylether	X V	N/V		па	Ϋ́	¥.		2 2
hexachlorobenzene	A A	4.18E-03		na	Ϋ́	7.50E+01		2
pentachlorophenol	AN AN	5.60E-02		na	Ą	1.50E+03		E
phenanthrene	A A	N		na	AN	2.00E+03		2
anthracene	NA NA	1.10E+03		na	Υ	6.00E+03		E
di-n-butylphthalate	1.94E-03	3.65E+02	5.32E-06	no	4.73E-02	1.50E+04	3.15E-06	2
fluoranthene	NA NA	1.46E+02		na	Ϋ́	3.00E+01		g
pyrene	NA V	1.10E+02		na	Ϋ́	1.50E+04		E
butylbenzylphthalate	AN A	7.30E+02		na	AN A	5.00E+05		E
benzo(a)anthracene	ΑN	2.17E-02		na	ΑΝ	6.00E+02		E
chrysene	NA NA	2.17E+00		na	NA	2.00E+02		g
3,3-dichlorobenzidine	AN AN	1.50E-02		na	ΝA	6.21E+03		g
bis(2-ethylhexyl)phthalate	1.64E-02	4.80E-01	3.42E-02	ou	9.32E-01	1.00E+04	9.32E-05	2
di-n-octylphthalate	AN AN	7.30E+01		na	NA	1.50E+05		la
benzo(b)fluoranthene	NA	2.17E-02		na	NA	NA		E
benzo(k)fluoranthene	AN.	2.17E-01		na	NA	ΑN		ВE
benzo(a)pyrene	Y S	2.17E-03		na	NA	7.50E+03		Вã
Indeno(1,2,3-cd)pyrene	AA	2.17E-02		na	NA	AN		na
dibenz(a,h)anthracene	NA V	2.17E-03		na	NA	3.00E+04		E
benzo(g,h,i)perylene	Y.	N/		па	AA	3.00E+04		na
TO-13 (PAHs)								
naphthalene	7.96E-04	3.13E+00	2 55F-04	5	1 94E-02	VOTES L	2 465 03	
acenaphthylene	3.21E-05	NS.		2 2	7 82E-04	2 005+07	2.40E-07	2
Acenaphthene	6.58E-06	2.19E+02	3.00E-08	2	1.60E-04	1.25E+03	1.38E.07	2 2
fluorene	1.96E-05	1.46E+02	1.35E-07	2	4.78E-04	7.50E+04	6.37E-09	2 2
phenanthrene	2.91E-05	N		ВП	7.08E-04	2.00E+03	3.54E-07	2

Table D-9: Comparison of Modeled Air Concentrations with Health-Based Values (M16A1) - 300 meter location

Cehronic (µg/m³) 4.27E-06 3.36E-05 7.24E-05 5.96E-06 7.12E-06 7.12E-06 7.13E-06 7.13E-06 7.13E-06 9.94E-05 NA NA NA NA NA NA NA NA NA N	a Landau Caranta Caran	Cehronle / HBSL 3.90E-09 2.30E-07 6.61E-07 2.75E-04 3.28E-06 6.11E-04 2.40E-05 5.60E-04 9.64E-04	2 2 2 2 2 2 2	C _{acute} (µg/m³) 1.04E-04 8.17E-04 1.76E-03 3.38E-04 4.04E-04 7.37E-05 2.97E-04	Acute Toxicity Value (µg/m³) 6.00E+03 3.00E+01 1.50E+04 6.00E+02 2.00E+02 NA	Cacute/ ATV 1.73E-08 2.72E-05 1.17E-07 5.64E-07 2.02E-06	- 12 no no
4.27E-06 3.36E-05 5.96E-06 7.12E-06 7.13E-06 7.13E-06 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA		3.90E-09 2.30E-07 6.61E-07 2.75E-04 3.28E-06 6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2 2 2 2 2 2	1.04E-04 8.17E-04 1.76E-03 3.38E-04 4.04E-04 1.88E-04 7.37E-05 2.97E-04	6.00E+03 3.00E+01 1.50E+04 6.00E+02 2.00E+02 NA	1.73E-08 2.72E-05 1.17E-07 5.64E-07 2.02E-06	은 은
3.36E-05 7.24E-05 5.96E-06 7.12E-06 1.33E-05 5.20E-06 4.89E-05 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA		2.30E-07 6.61E-07 2.75E-04 3.28E-06 6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2 2 2 2 2	8.17E-04 1.76E-03 3.38E-04 4.04E-04 1.88E-04 7.37E-05 2.97E-04	3.00E+01 1.50E+04 6.00E+02 2.00E+02 NA	2.72E-05 1.17E-07 5.64E-07 2.02E-06	2
7.24E-05 5.96E-06 7.12E-06 1.33E-05 5.20E-06 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA		6.61E-07 2.75E-04 3.28E-06 6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2 2 2 2	1.76E-03 3.38E-04 4.04E-04 1.88E-04 7.37E-05 2.97E-04	1.50E+04 6.00E+02 2.00E+02 NA	1.17E-07 5.64E-07 2.02E-06	
5.96E-06 7.12E-06 1.33E-05 5.20E-06 4.89E-05 7.13E-05 7.13E-05 2.09E-06 9.94E-05 NA		2.75E-04 3.28E-06 6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2 2 2	3.38E-04 4.04E-04 1.88E-04 7.37E-05 2.97E-04	6.00E+02 2.00E+02 NA	5.64E-07 2.02E-06	2
7.12E-06 1.33E-05 5.20E-06 4.89E-05 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA		3.28E-06 6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2 2	4.04E-04 1.88E-04 7.37E-05 2.97E-04	2.00E+02 NA	2.02E-06	2
1.33E-05 5.20E-06 4.89E-05 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA		6.11E-04 2.40E-05 3.29E-03 5.60E-04 9.64E-04	2 2	1.88E-04 7.37E-05 2.97E-04	AN AN		2
5.20E-06 4.89E-05 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA		3.29E-03 5.60E-04 9.64E-04	2	7.37E-05 2.97E-04	VIV.		na
4.89E-05 7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA		3.29E-03 5.60E-04 9.64E-04	1	2.97E-04	Ş		Б
7.13E-06 1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA		3.29E-03 5.60E-04 9.64E-04	e		AN		па
1.22E-05 2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA NA	00 Z.17E-U3	5.60E-04 9.64E-04	on Or	4.05E-04	7.50E+03	5.39E-08	5
2.09E-06 9.94E-05 NA NA NA NA NA NA NA NA NA NA NA NA	.05 2.17E-02	9.64E-04	on O	1.72E-04	NA		na
9.94E-05 NA NA NA NA NA NA NA NA NA N	06 2.17E-03		no	1.19E-04	3.00E+04	3.96E-09	2
NA NA NA NA 6.96E-10 2.48E-09 NA NA NA NA NA	NN 90		ā	2.42E-03	3.00E+04	8.06E-08	2
NA NA NA NA 6.96E-10 2.48E-09 NA NA NA NA NA							
NA NA NA 6.96E-10 2.48E-09 NA NA NA NA	4.48E-08		na	AN	3.50E+00		na
NA NA NA 2.48E-09 NA NA NA NA NA			na	AN	2.50E+00		па
NA NA 6.96E-10 2.48E-09 NA NA NA NA			na	AN	AN		na
0.96E-10 2.48E-09 NA NA NA NA NA NA			na	AN	1.50E+01		an
0.96F 2.48F NA NA N	1.4		na	AN	ΑN		па
	10		na	4.23E-09	AN		na
			na	6.04E-08	1.50E+02	4.03E-10	2
	NV		na	NA	2.00E+00		Б
			na	NA	AN		па
			na	NA	7.50E-02		na
			na	NA	7.50E+00		na
			na	AN	2.50E+00		na
			na	NA	ΑN		па
AN			na	NA	1.50E+00		na
-	10		na	8.18E-10	NA		па
Jibenzo-p-furan			na	Ϋ́	NA		na
OCDF	>N		na	ΑN	3.00E+02		na
Nitrobenzene NA 2	2.09E+00		na	NA	1.51E+04		na

		Cartri	dge, 5.56-1 DO	6-mm Ball, N DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	116A1)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	· v	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
2-Nitrotoluene	NA	3.65E+01		БĒ	AN	Ϋ́		a
3-Nitrotoluene	NA	3.65E+01		па	AN	AA		2 0
4-Nitrotoluene	NA	3.65E+01		na	ΑN	3.37E+04		E
Nitroglycerine	NA	4.80E-01		na	Ϋ́	AN		na
1,3-Dinitrobenzene	AA	3.65E-01		па	Ϋ́	3.00E+03		na
2,6-Dinitrotoluene	A A	3.65E+00		na	ΑN	6.00E+02		na
2,4-Dinitrotoluene	A A	7.30E+00		na	AN	6.00E+02		na
1,3,5-Trinitrobenzene	NA	1.10E+02		na	NA	3.00E+04		Па
2,4,6-Trinitrotoluene	NA	2.24E-01		na	ΝΑ	2.50E+04		na
RDX	AN	6.11E-02		na	ΑΝ	ΑΝ		na na
4-Amino-2,6-Dinitrotoluene	ΝΑ	NV		na	ĄX	AA		na
2-Amino-2,6-Dinitrotoluene	ΝΑ	NV		па	ΑΝ	1.50E+04		na
Tetryl	NA	3.65E+01		Б	ΑΝ	AA		na
HMX	NA	1.83E+02		па	¥	AA		na
Pentaerythritoltetranitrate	AA	NV		na	NA	5.00E+01		na
Dibutyl Phthalate	NA	3.65E+02		na	ΑΝ	1.50E+04		na
Dioctyl Phthalate	AA	4.80E-01		na	NA A	1.00E+04		na
Diphenylamine	NA	9.13E+01		na	Ϋ́	3.00E+04		na
								5

Footnotes:

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Carronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Cacute: acute concentration

ATV: Acute toxicity value

Permanent Gases		U	Cartridge, 5.56-mm Ball, M855 (M16A1)	1 Ball, M855 (M16,	A1)
Aliphatic:C<=8	Compound	С _{chronic} (µg/m³)	C _{chronic} (µg/m³)	Cehronic (µg/m³)	C _{chronic} (µg/m³)
A		Aliphatic:C<=8	Alinhation		
4.54E-02 NA	Permanent Gases		Auphanc. C-20	Aromatic:C<=8	Aromatic:C>8
NA	Hexane	4.54E-02	ΔN		
1.53E-05 NA	Benzene	AN	NA	NA VAT OS	AN
NA	Heptane	1.53F-05	S V	4.91E-02	NA
1.93E-04 NA 2.30E-03 NA NA 2.30E-04 NA NA NA 2.90E-04 NA N	Toluene	NA	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	NA	NA
NA	Octane	1 03E-04	Y.	2.30E-03	NA
NA	Ethylbenzene	**************************************	N.	NA	AN AN
NA	m&n-Xylene	AN	NA	2.13E-04	NA
NA	Since April 2	NA	NA	2.90E-04	AN
NA NA NA NA NA NA NA NA NA 1.92E-02 NA NA NA NA NA HBSL 3.79E-02 0.00E+03 1.25E-04 NO NO 1.25E-04	Shire	NA	NA	3.63E-04	
NA	Siylerie	NA	NA	AN	A 775 A
NA	4-Eulylouene	NA	NA	NΑ	7 7 7 0 4
7.86E-03 NA NA NA 1.92E-02 NA NA NA NA NA NA NA Level 1.92E+04 1.04E+03 4.17E+02 HBSL 3.79E-06 0.00E+00 1.25E-04	1,2,4~1 rimethylbenzene	AN	AN	VIV.	2.71E-04
1.92E-02 NA	Propylene	7.86E-03	VIV.	5	3.39E-04
NA NA NA Level 1.92E+04 1.04E+03 4.17E+02 HBSL 3.79E-06 0.00E+00 1.25E-04	n-Hexane	1 92E-02	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	NA NA	NA
NA NA NA Level 1.92E+04 1.04E+03 4.17E+02 HBSL 3.79E-06 0.00E+00 1.25E-04	naphthalene	NA	Y.	NA	NA
Index Index <th< td=""><td>naphthalene</td><td></td><td>NA.</td><td>NA</td><td>2.10E-03</td></th<>	naphthalene		NA.	NA	2.10E-03
INA INA <td>acenaphthylene</td> <td>X < Z</td> <td>NA</td> <td>NA</td> <td>7.96E-04</td>	acenaphthylene	X < Z	NA	NA	7.96E-04
Index Index <th< td=""><td>Acenaphthene</td><td>X X</td><td>AN.</td><td>NA</td><td>3.21E-05</td></th<>	Acenaphthene	X X	AN.	NA	3.21E-05
Index Index <th< td=""><td>fluorene</td><td>CE VI</td><td>AN .</td><td>NA</td><td>6.58E-06</td></th<>	fluorene	CE VI	AN .	NA	6.58E-06
Index Index <th< td=""><td>phenanthrene</td><td>V V</td><td>AN</td><td>NA</td><td>1.96E-05</td></th<>	phenanthrene	V V	AN	NA	1.96E-05
ug/m³) NA NA NA Jg/m³) 7.27E-02 0.00E+00 5.23E-02 Level 1.92E+04 1.04E+03 4.17E+02 HBSL 3.79E-06 0.00E+00 1.25E-04	anthracene	AN	AN ST	NA	2.91E-05
ug/m³) 7.27E-02 0.00E+00 5.23E-02 Level 1.92E+04 1.04E+03 4.17E+02 'HBSL 3.79E-06 0.00E+00 1.25E-04	fluoranthene		NA	NA	4.27E-06
Jg/m() 7.27E-02 0.00E+00 5.23E-02 Level 1.92E+04 1.04E+03 4.17E+02 HBSL 3.79E-06 0.00E+00 1.25E-04	- - - - - - - - - -	YN.	NA	NA	3.36E-05
HBSL 3.79E-06 0.00E+00 1.25E-04 1.25E-04	Derived Health Based Secretary	7.27E-02	0.00E+00	5.23E-02	4.11E-03
>1? 0.00E+00 1.25E-04	lean ocienting Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
00		3.79E-06	0.00E+00	1.25E-04	1 07E 0E
	>12	01	2		1.37 E-03

	Ü	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A1) DODIC: A059	(1).
Compound	С _{chronic} (µg/m³)	C _{chronic} (μg/m³)	C _{chronic} (µg/m³)	C _{chronle} (µg/m³)
	Aliphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
Footnotes:				
>1? = Is the ratio greater than one?				
NA = Not Applicable because compound was not detected				
C _{chronic} = chronic averaged air Concentration				
HBSL = Health-Based Screening Level				

M855A1risk300m.xls

acid NA	Healt Screer (µ						
2.70E+00 6.60E+01 1.29E+02 6.66E+00 NA NA NA 4.71E-02 NA NA 3.22E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA		C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
2.70E+00 6.60E+01 1.29E+02 6.66E+00 NA NA 4.71E-02 NA NA 2.14E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA			1				
6.60E+01 1.29E+02 6.66E+00 NA NA NA NA NA NA NA 1.19E-02 3.22E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA		2.59E-02	02	1 64F+01	1 755104	0 275 04	
1.29E+02 6.66E+00 NA NA NA 4.71E-02 NA NA NA 3.14E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA	2		na	1.61E+03	5.40F±07	3.57E-04	2
6.66E+00	1.00E+04	1.29E-02	2	7.85E+02	2 30F+05	3.41 = 03	
NA NA NA 4.71E-02 NA NA 2.14E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	1.00E+02	6.66E-02	2	1.62E+02	3.08F+04	5.77E-03	
NA NA NA 4.71E-02 NA NA 2.14E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	8.00E+01		na	AN	7.89E+02	0.21 L-0.0	2 2
NA NA NA 4.71E-02 NA NA 2.14E+00 3.22E+00 3.22E+00 1.19E-02 1.40E-01 NA NA							
NA NA NA NA 2.14E+00 3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA NA	N/		па	ΑΝ	1.60E+03		2
NA NA NA NA 2.14E+00 3.14E+00 3.22E+00 1.19E-02 1.40E-01 NA NA	2.08E+01		БП	A'A	4.50E+03		2 2
4.71E-02 NA NA 2.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	NV		na	A'A	9 93E+03		2 2
NA NA 2.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	>N		g	2.86E-01	1 30F±03	2 205 04	2
NA 2.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	1.04E+01		E .	NA	3 ODE+03	4.40L-04	2
NA 2.14E+00 3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	N		20	AN	2.00E+03		E :
3.14E+00 3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02					4.00L-103		g
2.14E+00 3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	7.30E+01		2	AN	5 OUE TOS		
3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	3.13E+00	6.84F-01	2	5 20E±01	5.47E.03	7071	g
3.14E+00 3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02			2	0.50	0.17 E+03	1.01E-02	2
3.22E+00 2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02	5.00E+01	6.27E-02	2	1 91E±01	52		
2.22E+00 1.19E-02 1.40E-01 NA 9.41E-02		6.43E-02	2 2	1 95F±01	C S		E
		1.48E-01	2	1.35F±01	V.		la la
	_				2		Ba
	5.11E+00	2.33E-03	2	2.89E-01	3 00F+04	0 635 06	
	1.46E+00	9.59E-02	2	3.40E+00	1.50F+03	2.03E-00	2 2
	4.47E-04		Вп	Ϋ́	3.00E+01	201	2 2
_	5.21E-01	1.80E-01	2	2.29E+00	1.50E+03	1 53E_03	
	8.00E-04		na	Ϋ́	5 00F+00	200	2 2
Cadmium	1.07E-03		eu	ΑN	3 00E+04		2
Calcium 3.48E-02	> <u>N</u>		60	8 48E-01	3 000 70	2 025 05	2
Chromium	1.53E-04		62	AM	1 505-103	4.03E-U3	2
Cobalt	2 20F±02		2 2		1.30E+03		па
1.27E+00	1 46F+02	8 72E 03	<u>a</u>	Y L	6.00E+01		na
4 05E-01	1 505+00	2.72E-03	2	3.10E+01	3.00E+03	1.03E-02	2
	000	4.70E-01	2	9.86E+00	1.50E+02	6.57E-02	ou

Table D-11: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 300 meter location

		Cartri	dge, 5.56-ı DC	mm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	n6A2)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Magnesium	NA	۸N		na	NA	3.00E+04		a
Manganese	NA	5.11E-02		na	AA	3.00E+03		па
Nickel	NA	7.30E+01		na	A'A	3.00E+03		na
Selenium	NA	1.83E+01		na	AA	6.00E+02		na
Silver	NA	1.83E+01		na	AN	3.00E+02		na
Thallium	ΝΑ	2.56E-01		na	NA	3.00E+02		na
Vanadium	NA	2.56E+01		na	NA NA	1.50E+02		na
Zinc	1.67E-01	1.10E+03	1.52E-04	ou	4.06E+00	3.00E+04	1.35E-04	92
TO-11 Carbonyls								
Formaldehyde	2.60E-03	1.48E-01	1.76E-02	00	3.69E-02	1.23E+03	3.00E-05	on O
Acetaldehyde	ΑΝ	8.73E-01		na	NA	1.80E+04		na
Acetone	NA	3.65E+02		na	AN	2.37E+06		na
Acrolein	2.06E-03	2.09E-02	9.86E-02	9	1.25E-02	2.30E+02	5.44E-05	2
Proprionaldehyde	NA	NV		na	NA	7.50E+04		na
Crotonaldehyde	NA	3.54E-03		na	NA	5.72E+03		na
Butyraldehyde	NA	N		na	NA	7.38E+04		na
Benzaldehyde	NA	3.65E+02		na	NA	1.50E+04		na
Isovaleraldehyde	NA	N\		na	NA	NA		na
Valeraldehyde	NA	N		na	NA	NA		na
o,m,p-Tolualdehyde	NA	N/		na	NA	NA		na
Hexaldehyde	NA	NΛ		na	NA	NA		na
2,5-Dimethylbenzaldehyde	NA	N		na	NA	NA		na
VOCs								
Propene	6.57E-03	NV		na	3.99E-02	AN		na
Dichlorodifluoromethane	NA	2.09E+02		na	NA	1.48E+07		na
Chlorodifluoromethane	NA	5.11E+04		na	NA	4.41E+06		na
Freon 114	NA	N<		па	NA	2.10E+07		na
Chloromethane	4.89E-05	1.07E+00	4.58E-05	סח	2.77E-03	2.06E+05	1.35E-08	2
Vinyl Chloride	NA	2.20E-02		па	NA	1.28E+04		na
1,3-Butadiene	5.55E-04	3.74E-03	1.48E-01	2	7.87E-03	2.20E+04	3.58E-07	OU
Bromomethane	AN	5.21E+00		B	ΑΝ	5.82E+04		na
Chloroethane	NA	2.32E+00		ā	AN	2.64E+06		na

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Table D-11: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 300 meter location

		Cartri	dge, 5.56- DC	mm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	С _{асиt} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Dichlorofluoromethane	NA	2.09E+02		na	NA	1.48E+07		2
Trichlorofluoromethane	NA	7.30E+02		na	NA	2.81E+06		2 0
Pentane	NA	NV		na	AA	1.80E+06		2 2
Acrolein	NA	2.09E-02		na	AA	2.30E+02		2 2
1,1-Dichloroethene	NA	5.21E+02		na	NA	7.92E+04		2 2
Freon 113	AA	3.13E+04		na	NA	9.58E+06		2 6
Acetone	2.00E-03	3.65E+02	5.48E-06	OL.	4.87E-02	2.37E+06	2.05E-08	2
Methyl lodide	Y.	N/		na	A A	1.45E+05		na
Carbon Disulfide	NA	7.30E+02		na	NA	3.11E+04		na
Acetonitrile	5.03E-02	6.20E+01	8.11E-04	no	1.22E+00	1.01E+05	1.21E-05	02
3-Chloropropene	NA AN	1.04E+00		na	NA	9.39E+03		- La
Methylene Chloride	6.83E-03	4.09E+00	1.67E-03	2	9.69E-02	6.96E+05	1.39E-07	2
tert-Butyl Alcohol	NA	N		na	¥	4.55E+05		2 2
Acrylonitrile	1.71E-03	2.83E-02	6.07E-02	OL	2.43E-02	2.17E+04	1.12E-06	2
trans-1,2-Dichloroethene	AN AN	7.30E+01		na	NA	4.95E+04		na E
Methyl t-Butyl Ether	AN A	3.13E+03		пa	N A	4.32E+05		g
Hexane	1.12E-02	2.09E+02	5.39E-05	OU	2.73E-01	5.28E+05	5.18E-07	2
1,1-Dichloroethane	¥	5.21E+02		na	NA	1.21E+06		па
Vinyl Acetate	Y X	2.09E+02		na	NA	1.92E+04		na
cis-1,2-Dichloroethene	Y .	3.65E+01		na	AN	7.92E+05		па
Z-Butanone	AN L	1.04E+03		БE	A A	8.85E+05		na
Methyl Acetate	1.45E-U3	3.29E+03	4.42E-07	2	3.53E-02	1.44E+06	2.45E-08	9
Chloroform	<u> </u>	1.10E+02		ā	Ą	NA NA		na
CHIOCOLOGICAL TOTAL TOTA	¥2.	Ø.35E-UZ		g	NA A	9.76E+03		na
1, 1, 1-1 richioroethane	1.36E-04	1.04E+03	1.31E-07	2	8.28E-04	1.94E+06	4.26E-10	92
Carbon letrachloride	AN I	1.28E-01		na	NA	1.28E+05		na
1,2-Dichloroethane	4.68E-04	7.39E-02	6.33E-03	2	2.65E-02	8.08E+03	3.28E-06	2
Benzene	2.39E-02	2.49E-01	9.61E-02	00	3.39E-01	1.56E+05	2.18E-06	2
Isooctane (2,2,4-trimethylpentane)	¥N.	N<		na	NA	3.50E+05		na
Heptane	¥N.	N		na	NA	1.80E+06		na
richioroethane	AN:	1.04E+03		па	NA	1.94E+06		na
Ethyl Acrylate	NA	1.40E-01		g	NA	6.14E+04		na

Table D-11: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 300 meter location

		Cartri	dge, 5.56-ı D©	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	N6A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 15
1,2-Dichloropropane	NA	9.89E-02		na	NA	5.08E+05		па
Methyl Methacrylate	NA	7.30E+02		na	NA	4.09E+05		na
Dibromomethane	NA	3.65E+01		na	NA	2.50E+05		na
1,4-Dioxane	NA	6.11E-01		na	NA	9.00E+04		na
Bromodichloromethane	NA	1.08E-01		na	NA	4.00E+03		па
4-Methyl-2-Pentanone	NA	8.34E+01		na	NA	3.07E+05		пa
Toluene	2.71E-03	4.02E+02	6.75E-06	ou	1.65E-02	1.88E+05	8.78E-08	92
Octane	NA	NV		na	NA	AN		na
trans-1,3-Dichloropropene	NA	5.17E-02	,	na	NA	NA		na
Ethyl Methacrylate	NA	3.29E+02		na	NA	AN		na
1,1,2-Trichloroethane	NA	1.20E-01		na	NA	1.64E+05		na
Tetrachloroethene	NA	3.31E+00		na	NA	6.78E+05		па
2-Hexanone	NA	5.11E+00		na	NA	4.09E+04		na
Dibromochloromethane	NA	8.00E-02		na	NA	6.00E+03		na
1,2-Dibromoethane	NA	8.73E-03		na	NA	1.54E+05		na
Chlorobenzene	NA NA	6.21E+01		na	NA	1.38E+05		na
1,1,1,2-Tetrachloroethane	NA	2.60E-01		na	NA	5.15E+04		na
Ethylbenzene	2.55E-04	1.06E+03	2.41E-07	no	6.20E-03	5.43E+05	1.14E-08	5
m&p-Xylene	5.71E-04	7.30E+02	7.82E-07	on	1.39E-02	6.51E+05	2.13E-08	01
o-Xylene	3.14E-04	7.30E+02	4.30E-07	9	7.64E-03	6.51E+05	1.17E-08	no
Styrene	7.65E-04	1.06E+03	7.23E-07	9	4.65E-03	2.13E+05	2.19E-08	on O
Bromoform	NA NA	1.75E+00		na	A'A	6.20E+03		na
Cumene	NA	4.02E+02		na	NA	2.46E+05		na
1,1,2,2-Tetrachloroethane	NA	3.31E-02	•	na	NA	2.06E+04		na
1,2,3-Trichloropropane	NA	9.61E-04		na	NA	6.03E+04		na
Bromobenzene	NA	1.04E+01		na	NA	4.82E+04		na
4-Ethyltoluene	1.32E-04	NV		na	3.22E-03	1.25E+05	2.58E-08	90
1,3,5-Trimethylbenzene	9.05E-05	6.21E+00	1.46E-05	no	2.20E-03	3.68E+05	5.98E-09	5
Alpha Methyl Styrene	NA	2.56E+02		na	NA	NA		na
1,2,4-Trimethylbenzene	2.66E-04	6.21E+00	4.29E-05	ou	6.47E-03	1.80E+05	3.60E-08	OU
1,3-Dichlorobenzene	NA	3.29E+00		na	NA	3.61E+04		na
1,4-Dichlorobenzene	NA NA	3.06E-01		па	NA	6.61E+05		na

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		Cartric	dge, 5.56-r DO	56-mm Ball, M DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
Benzyl Chloride	Ϋ́	3.96E-02		па	₹	5.20E+03		na
1,2-Dichlorobenzene	Ą	2.09E+02		na	Ą	3.01E+05		БE
Hexachlorethane	AN AN	4.80E-01		na	¥.	2.90E+04		БП
1,2,4-Trichlorobenzene	A'N	2.08E+02		g	Ϋ́	3.71E+04		па
Hexachlorobutadiene	NA V	8.73E-02		вп	A V	3.21E+04		na
Hydrocarbons								
Methane	8.33E-01	N		Б	2.03E+01	3.30E+06	6.14E-06	2
Ethylene	6.20E-02	N/		па	1.51E+00	4.60E+05	3.28E-06	2
Acetylene	8.43E-03	NV		na	5.13E-02	AN		па
Ethane	3.41E-02	NV		na	2.07E-01	NA		na
Propylene	1.23E-02	NV		na	7.50E-02	AN		па
Propane	NA	NV		na	NA	3.78E+06		па
Propyne (methyl acetylene)	NA	NV		na	NA	2.79E+06		na
Isobutane	NA	NV		na	NA	9.52E+05		na
1-Butene/Isobutylene (115-11-7)	7.27E-03	N		na	1.77E-01	6.87E+06	2.57E-08	ou
1,3-Butadiene/butane	Ϋ́	3.74E-03		na	NA A	2.20E+04		eu
cis-butene	NA	N		na	Ϋ́	1.72E+04		na
1-Butyne	NA	N		na	NA NA	AA		na
trans-Butene	NA NA	N		па	A A	1.72E+04		ua
2-Butyne (crotonylene)	NA NA	N		na	NA	NA		na
n-Pentane	NA	NV		na	NA	1.80E+06		ua
n-Hexane	1.09E-02	2.10E+02	5.20E-05	no	2.65E-01	5.28E+05	5.03E-07	입
SVOCs								
n-nitrosodimethylamine	NA	1.37E-04		na	NA	2.50E+03		na
bis(2-chloroethyl)ether	NA	5.82E-03		na	NA	5.85E+04		na
phenol	NA	2.19E+03		na	NA	3.85E+04		na
2-chlorophenoi	A A	1.83E+01		na	ΝΑ	5.25E+03		na
1,3-Dichlorobenzene	NA	3.29E+00		na	ΝΑ	3.61E+04		na
1,4-dichlorobenzene	NA	3.06E-01		na	ΑΝ	6.61E+05		na
1,2-dichlorobenzene	NA	2.09E+02		па	AN	3.01E+05		na
benzyl alcohol	NA	1.10E+03		па	NA	5.53E+04		na

M855A2risk300m.xls

		Cartri	dge, 5.56-ı D©	nm B DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	116A2)		
Compound	С _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 12
bis(2-chloroisopropyl)ether	NA	1.92E-01		na	ΑN	6.99E+04		na
2-methylphenol	NA	1.83E+02		na	NA	NA		na
hexachloroethane	NA	4.80E-01		na	NA	2.90E+04		Па
n-nitroso-di-n-propylamine	NA	9.61E-04		na	NA	2.00E+02		na
4-methylphenol	NA	1.83E+02		na	NA	NA		па
nitrobenzene	NA	2.09E+00		na	NA	1.51E+04		na
isophorone	NA	7.08E+00		na	NA	2.83E+04		na
2-nitrophenol	NA	N N		na	NA	NA		na
2,4-dimethylphenol	NA	7.30E+01		па	NA	NA		na
bis(2-chloroethoxy)methane	N A	N		па	NA	NA		na
2,4-dichlorophenol	NA	1.10E+01		па	NA	3.00E+04		na
1,2,4-trichlorobenzene	NA NA	2.08E+02		ā	NA	3.71E+04		na
naphthalene	8.26E-04	3.13E+00	2.64E-04	0	2.01E-02	7.86E+04	2.56E-07	0
4-chloroaniline	NA	1.46E+01		g	NA	3.00E+04		na
hexachlorobutadiene	NA	8.62E-02		na	NA	3.21E+04		na
4-chloro-3-methylphenol	V	N/		na	NA	2.00E+04		na
2-methylnaphthalene	NA	7.30E+01		a	NA	2.00E+04		na
hexachlorocyclopentadiene	NA	7.30 E -02		na L	NA	2.23E+02		na
2,4,6-trichlorophenol	NA	1.10E+02		na	NA	3.00E+04		na
2,4,5-trichlorophenol	NA	3.65E+02		na	NA NA	3.00E+04		na
2-chloronaphthalene	NA	2.92E+02		Ba	A A	6.00E+02		na
2-nitroaniline	AN	2.09E-01		na	N A	NA		na
Acenaphthylene	NA	N		na	NA NA	2.00E+02		na
dimethylphthalate	NA	3.65E+04		na	NA	1.50E+04		na
2,6-dinitrotoluene	NA	3.65E+00		na	NA	6.00E+02		na
acenaphthene	AN	2.19E+02		na	ΝA	1.25E+03		na
3-nitroaniline	AA	NV		na	NA	ΥN		na
2,4-dinitrophenol	NA	7.30E+00		na	NA	7.50E+03		na
dibenzofuran	ΝΑ	1.46E+01		na	NA	ΝA		na
2,4-dinitrotoluene	NA	7.30E+00		na	NA	6.00E+02		na
4-nitrophenol	NA	2.92E+01		па	۸A	3.00E+04		na
Fluorene	NA	1.46E+02		na	NA	7.50E+04		па

Table D-11: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 300 meter location

		Cartri	dge, 5.56-r	nm B	Cartridge, 5.56-mm Ball, M855 (M16A2)	16A2)		
			2	DODIC: A059	4059			
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
4-chlorophenyl-phenylether	NA	N		na	Ϋ́	NA		na
diethylphthalate	AN	2.92E+03		na	NA	1.50E+04		na
4-nitroaniline	AA	N		na	NA	9.00E+03		na
4,6-dinitro-2-methylphenol	ΑN	3.65E-01		na	AN	5.00E+02		na
n-nitrosodiphenylamine(1)	NA	1.37E+00		па	NA	NA		na
4-bromophenyl-phenylether	NA	NV		na	NA	NA		na
hexachlorobenzene	NA	4.18E-03		na	NA	7.50E+01		na
pentachlorophenol	NA	5.60E-02		na	NA	1.50E+03		na
phenanthrene	NA	NV		na	NA	2.00E+03		na
anthracene	AN	1.10E+03		na	NA	6.00E+03		na
di-n-butylphthalate	9.23E-04	3.65E+02	2.53E-06	OU	2.25E-02	1.50E+04	1.50E-06	no
fluoranthene	NA	1.46E+02		na	NA	3.00E+01		na
pyrene	AN	1.10E+02		na	NA	1.50E+04		na
butylbenzylphthalate	AN	7.30E+02		na	NA	5.00E+05		na
benzo(a)anthracene	NA	2.17E-02		na	NA	6.00E+02		na
chrysene	NA	2.17E+00		na	NA	2.00E+02		na
3,3-dichlorobenzidine	NA	1.50E-02		na	NA	6.21E+03		na
bis(2-ethylhexyl)phthalate	AN	4.80E-01		na	NA	1.00E+04		na
di-n-octylphthalate	AN	7.30E+01		na	NA	1.50E+05		na
benzo(b)fluoranthene	NA	2.17E-02		na	NA	NA		na
benzo(k)fluoranthene	NA NA	2.17E-01		na	NA	۸A		na
benzo(a)pyrene	NA	2.17E-03		na	NA	7.50E+03		na
indeno(1,2,3-cd)pyrene	NA A	2.17E-02		na	NA NA	NA		na
dibenz(a,h)anthracene	ΝΑ	2.17E-03		na	NA	3.00E+04		na
benzo(g,h,i)perylene	AN A	Ž		na	ΑΝ	3.00E+04		na
TO-13 (PAHs)								
naphthalene	7.03E-04	3.13E+00	2.25E-04	OD.	1.71E-02	7.86E+04	2.17E-07	2
acenaphthylene	3.05E-05	N		na	7.42E-04	2.00E+02	3.71E-06	ou
Acenaphthene	5.93E-06	2.19E+02	2.71E-08	2	1.44E-04	1.25E+03	1.15E-07	OU
fluorene	1.69E-05	1.46E+02	1.16E-07	20	4.10E-04	7.50E+04	5.47E-09	no
phenanthrene	2.32E-05	N/		па	5.64E-04	2.00E+03	2.82E-07	OL OL

		Cartri	dge, 5.56-ı D©	nm DIC:	Cartridge, 5.56-mm Ball, M855 (M16A2) D©DIC: A059	16A2)		
Compound	С _{сhronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 1?	С _{асиte} (µg/m³)	Acute Toxicity Value (µg/m³)	Cacute/ ATV	> 1?
anthracene	4.23E-06	1.10E+03	3.86E-09	2	1.03E-04	6.00E+03	1.71E-08	2
fluoranthene	3.60E-05	1.46E+02	2.46E-07	2	8.75E-04	3.00E+01	2.92E-05	00
pyrene	9.10E-05	1.10E+02	8.31E-07	2	2.21E-03	1.50E+04	1.48E-07	OL OL
benzo(a)anthracene	8.59E-06	2.17E-02	3.96E-04	2	4.87E-04	6.00E+02	8.12E-07	2
chrysene	8.59E-06	2.17E+00	3.96E-06	2	4.87E-04	2.00E+02	2.44E-06	92
benzo(b)fluoranthene	1.20E-05	2.17E-02	5.55E-04	2	1.71E-04	NA		na
benzo(k)fluoranthene	5.96E-06	2.17E-01	2.75E-05	no	8.45E-05	AN		na
Benzo(e)pyrene	3.92E-05	NV		na	2.38E-04	NA		na
benzo(a)pyrene	1.51E-05	2.17E-03	6.98E-03	na	8.60E-04	7.50E+03	1.15E-07	92
indeno(1,2,3-cd)pyrene	1.79E-05	2.17E-02	8.24E-04	no	2.54E-04	AN		na
dibenz(a,h)anthracene	1.55E-06	2.17E-03	7.14E-04	no	8.79E-05	3.00E+04	2.93E-09	2
benzo(g,h,i)perylene	9.76E-05	NV		na	2.37E-03	3.00E+04	7.91E-08	on
Dioxins and Furans								
2378-Tetrachlorodibenzo-p-dioxin	NA	4.48E-08		na	NA	3.50E+00		na
12378-Pentachlorodibenzo-p-dioxin	NA	NV		na	NA	2.50E+00		na
123478-Hexachlorodibenzo-p-dioxin	NA .	NV		na	NA	AN		na
123678-Hexachlorodibenzo-p-dioxin	ΝΑ	NV		na	NA	1.50E+01		na
123789-Hexachlorodibenzo-p-dioxin	ΝΑ	1.48E-06		na	AN	AN		na
1234678-Heptachlorodibenzo-p-dioxin	ΑΝ	N		na	NA	NA		na
OCDD	Ϋ́	N<		па	NA	1.50E+02		na
2378-Tetrachlorodibenzo-p-furan	ΑΝ	N		na	NA	2.00E+00		na
12378-Pentachlorodibenzo-p-furan	ΝΑ	N		na	NA	NA		na
23478-Pentachlorodibenzo-o-furan	ΑΝ	N		na	NA	7.50E-02		na
123478-Hexachlorodibenzo-p-furan	ΑΝ	N		na	NA	7.50E+00		na
123678-Hexachlorodibenzo-p-furan	Ϋ́	N		na	NA	2.50E+00		na
123789-Hexachlorodibenzo-p-furan	NA	>N		na	NA	NA		na
234678-Hexachlorodibenzo-p-furan	٩N	NV		na	NA	1.50E+00		na
1234678-Heptachlorodibenzo-p-furan	AA	N		na	NA	ΑN		na
1234789-Heptachlorodibenzo-p-furan	A A	>N		na	NA	NA		na
OCDF	6.84E-11	2		na	1.66E-09	3.00E+02	5.55E-12	2
Energetics								
Nitrobenzene	¥.	2.09E+00		Б	NA	1.51E+04		na

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Table D-11: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2) - 300 meter location

		Cartri	dge, 5.56- DC	56-mm Ball, N DODIC: A059	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	16A2)		
Compound	C _{chronic} (µg/m³)	Health-Based Screening Level (µg/m³)	C _{chronic} / HBSL	> 12	C _{acute} (µg/m³)	Acute Toxicity Value (up/m³)	Cacute/ ATV	> 12
2-Nitrotoluene	Ą	3.65E+01		200	ΔN	ON ON		
3-Nitrotoluene	ΑΝ	3.65E+01		2	NIA NIA	\ <u>\</u>		па
4-Nitrotoluene	A A	3.65E+01		2 2	V.	NA		В
Nitroglycerine	AM	4 80F-01		2 2	<u> </u>	3.37E+04		na
1,3-Dinitrobenzene	ΑN	3.65E-01		<u> </u>	2 2	NA		na
2,6-Dinitrotoluene	NA A	3.65E+00		<u> </u>		3.00E+03		па
2,4-Dinitrotoluene	A N	7 30F+00		9 6	2	6.00E+02		na
1,3,5-Trinitrobenzene	AN	1 10E±02		<u> </u>	¥.	6.00E+02		na
2,4,6-Trinitrotoluene	ΔN	2 24E 04		E I	XX.	3.00E+04		na
RDX	AN	8 11E 02		na L	¥.	2.50E+04		na
4-Amino-2,6-Dinitrotoluene	AN	NV NV		a i	¥.	AA A		na
2-Amino-2,6-Dinitrotoluene	AN	À.		E S	₹Z	Y.		na
Tetryl	A'A	3.65F+01		<u> </u>	Y S	1.50E+04		na
HMX	AN	1.83E+02		<u> </u>	X 2	Y.		na
Pentaerythritoltetranitrate	Y.	N/		2 6	V.	NA I		na
Dibutyl Phthalate	NA A	3 65 102		9	¥.	5.00E+01		na
Dioctyl Phthalate	AN	4 ROE-01		<u> </u>	¥.	1.50E+04		na
Diphenylamine	AN	Q 13E+01		E	¥.	1.00E+04		na
Footpotos				na L	AA	3.00E+04		e

Footnotes:

NA: Not applicable because compound was not detected.

na: Not available because health-based sceening value is not available or not applicable if compound was not detected.

NV: No value available.

Carronic: Chronic time-averaged concentration

HBSL: Chronic health-based screening level

Sacute: acute concentration

ATV: Acute toxicity value

Table D-12: Comparison of Modeled Air Concentrations with Health-Based Values (M16A2): Total Petroleum Hydrocarbons - 300 meter location

	Ö	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	2)
Compound	С _{chronic} (µg/m³)	С _{сhronic} (µg/m³)	C _{chronic} (µg/m³)	Cehronic (µg/m³)
	Allphatic:C<=8	Aliphatic:C>8	Aromatic:C<=8	Aromatic:C>8
Permanent Gases				
Hexane	1.12E-02	NA	NA NA	AN
Benzene	NA	AN	5.58E-02	NA N
Toluene	NA	NA	2.71E-03	NA
Ethylbenzene	NA	NA	2.55E-04	NA
m&p-Xylene	NA	NA	5.71E-04	NA
o-Xylene	NA	AN	3.14E-04	AN
Styrene	NA	AN	¥	7.65E-04
4-Ethyltoluene	NA	NA	NA	1.32E-04
1,3,5-Trimethylbenzene	NA	AN	NA	9.05E-05
1,2,4-Trimethylbenzene	NA	AN	AN	2.66E-04
Propylene	1.23E-02	AN	AN	NA
1-Butene/Isobutylene (115-11-7)	7.27E-03	NA	NA	NA
n-Hexane	1.09E-02	NA	NA	NA
naphthalene	NA	AN	AA	8.26E-04
naphthalene	NA	AN	AN	7.03E-04
acenaphthylene	NA	NA	NA	3.05E-05
Acenaphthene	NA	NA	AN	5.93E-06
fluorene	NA	NA	AN	1.69E-05
phenanthrene	NA	NA	AN	2.32E-05
anthracene	NA	NA	AN	4.23E-06
fluoranthene	NA	NA	NA	3.60E-05
Total (µg/m³)	4.18E-02	0.00E+00	5.97E-02	2.90E-03
Derived Health-Based Screening Level	1.92E+04	1.04E+03	4.17E+02	2.09E+02
C _{chronic} /HBSL	2.18E-06	0.00E+00	1.43E-04	1.39E-05
>1?	no	no	no	no

	Ö	artridge, 5.56-mm DODIC	Cartridge, 5.56-mm Ball, M855 (M16A2) DODIC: A059	(2)
Compound	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	C _{chronic} (µg/m³)	С _{сhronic} (µg/m³)
	Alinhatio:			
Footnotes:	חויים ומויים	Allphatic:C>8	Aromatic:C<=8	Aromatic:C>8
>1? = Is the ratio greater than one?				
NA = Not Applicable because compound was not detected				
Cchronic = chronic averaged air Concentration				
HBSL = Health-Based Screening Level				

APPENDIX E

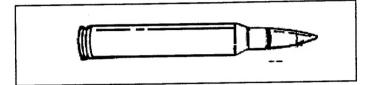
FACT SHEET SUBMITTED TO THE U.S. ARMY ENVIRONMENTAL CENTER

U.S. Army Environmental Center Training Munitions Fact Sheet

M855 5.56-mm Ball Cartridge

Department of Defense Identification Code: A059

Breathing air emissions from the M855 5.56-mm ball cartridge will not impact the health of residents who live as close as 300 meters (984 feet) from the firing location.



To be fully prepared to protect our country, U.S. soldiers must train with many different weapons and munitions, including the M855 5.56-mm ball cartridge. This training is important because it helps prepare our soldiers for a variety of combat situations. While the Army recognizes the value of such comprehensive training on our installations, we also work hard to ensure the safety and health of surrounding communities.

WILL BREATHING AIR EMISSIONS FROM THE M855 5.56-MM BALL CARTRIDGE AFFECT MY HEALTH?

To answer this question, the U.S. Army tested the air emissions that are released when the M855 is fired. The information gathered during these tests was then analyzed to determine if there would be a potential for health effects from inhalation to residents who live near training areas. Study results, generated using conservative methods, showed that offsite residents breathing air as close as 300 meters (984 feet or about the length of three football fields) from the firing location are safe from these emissions. If offsite residents are located less than 300 meters from the firing location, a more site-specific evaluation would be necessary. It should be noted that at most locations, training areas are at least 1,000 meters (over half a mile) away from populated areas and the distance to firing locations may be even farther.

HOW WAS THE STUDY CONDUCTED?

To gather data for this study, the M855 was fired from M16 series rifles in a test chamber. The air in the chamber was then tested to identify the types and amounts of substances released. About 300 different substances were looked for during this part of the study.

This information was then used in an U.S. Environmental Protection Agency (USEPA) approved air model (a computer program that allows estimation of air concentrations) to determine the amount of each substance to which someone living near a training site might be exposed. Downwind concentrations were

estimated based on a typical use scenario for the M855 during training exercises. Since this study did not look at any one specific training area, the assumptions used in the model would, in most cases, predict higher downwind air concentrations than those expected at an actual training site.

These estimated air concentrations were then compared to screening levels established by the USEPA and other federal agencies. If the air concentrations are less than these screening levels, they are considered safe for the general population, including sensitive people such as the sick, elderly, and children.

WHAT ARE THE STUDY LIMITATIONS?

Many steps were taken to ensure that the results of this study are protective of residents who live near training facilities. However, as with any study, this study has limitations. For example, the study does not consider exposure to other types of munitions that could also be used during the same training event. Due to these limitations, conservative model conditions were used to ensure the protection of public health from breathing M855 air emissions.

WHAT EXACTLY IS THE M855 5.56-MM BALL CARTRIDGE?

The M855 is a type of ball ammunition, which means it is intended for use against unarmored targets. The M855 is used on firing ranges during training and is used in combat. The M855 consists of a metal case containing mostly copper and zinc. The cartridge contains a propelling charge that is made up primarily of nitrocellulose (which is commonly used in the production of lacquers and artificial leathers). Each M855 cartridge is about the length of a man's thumb and can be identified by its green tip.

WHERE CAN I GET MORE INFORMATION?

For more information on the M855 or other military munitions, please call the Army Environmental Hotline at 1-800-USA-3845, visit our Web site at www.aec.army.mil, or e-mail t2hotline@aec.apgea.army.mil.